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MUSEUM OF VERTEBRATE ZOOLOGY

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Koford, Mary
(M. C. Ramage)
1945-1950

1. Species accounts

[see Field Notes, Koford, M., 1945-1950]

James M. Smith
1850-1851

James M. Smith

James M. Smith

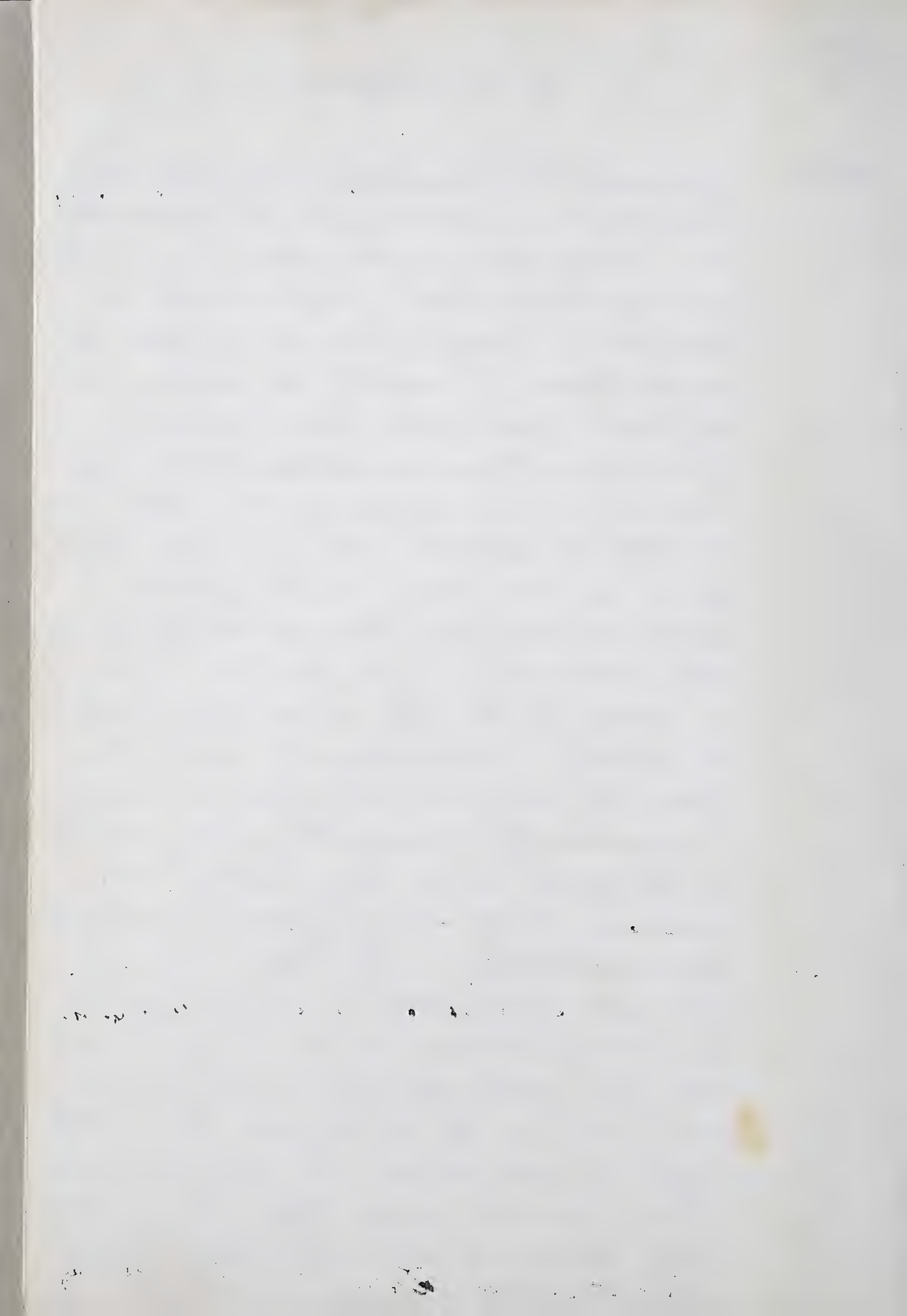
M. Koford
1947

Macrotytus californicus

Feb. 8

7 mi. S Vidal (S.B. Co.), Riverside Mts., in Riverside Co., Calif.

The tunnel in which we found the *Macrotytus* is a horizontal one 200' or more long, with an entrance about 7' high x 4' wide on the side of a canyon about 30' up from the canyon floor. For most of its length it is at least 10' wide and high. About 150' from the entrance is a drop which may connect to more diggings at a lower level. A little toward the entrance from this point a hole leads steeply upward a short distance and then levels off slightly and continues up for about 60'. It is 10' across at the beginning but narrows to about a 4' diameter. It was in this hole that we found the bats. A first inspection of the tunnel disclosed piles of droppings and a very "batty" odor but no bats. Then, apparently disturbed by our activities, a few bats began to fly out of this hole in the ceiling. We climbed up into the hole and I held a net over the lower part of the entrance while Carl went on up to the end. Soon bats began to pour down into my net faster than I could scoop them into a bag. They seemed to dive downward at this point to enter the main tunnel, so very



M. Kofoid
1947

Macrosc. californicus

Feb. 8

7 mi. S Yuba (S.B. Co.), Riverside Co., Calif.

few of them flew over the net. Some flew around it and others crawled around before I could grab them. The number we caught might represent as many as half the bats which were there. This was 178 (74 ♂♂, 104 ♀♀). The guano was several feet deep on the floor of this hole and in it were a number of insect parts including numerous ^{sphinx} moth wings. When we left the cave it was just getting dark. About two hours later ^{7:30 approx.} Carl entered the tunnel and saw 1 bat flying. At 10:00 we went in again and saw about 10, but did not go up into the hole where we found the bats. We caught 3 more at this time - 2 ♂♂, 1 ♀. The temperature must be very much higher in the hole where the bats were found than in the main tunnel. The males

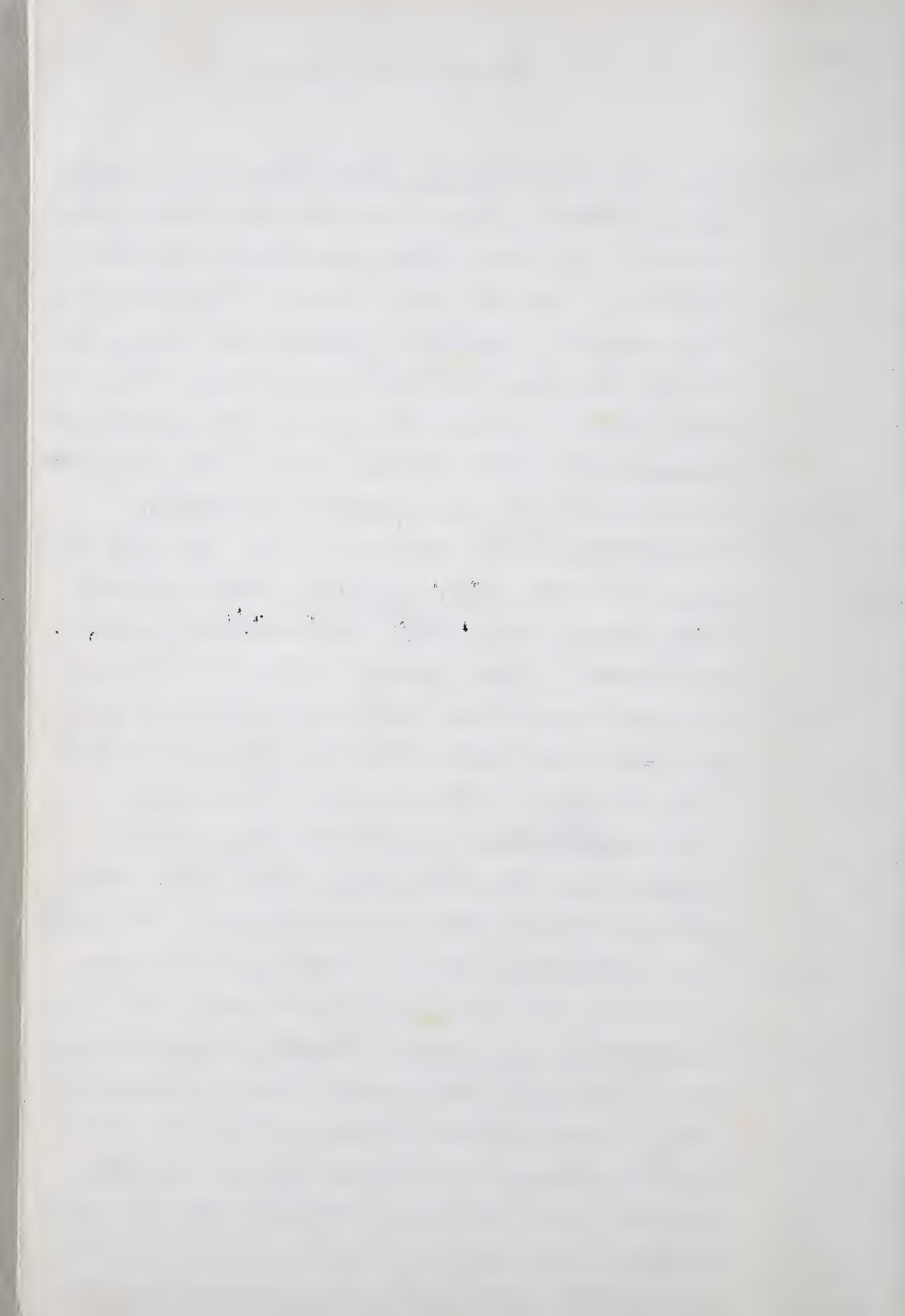
Feb. 9

are apparently not in breeding condition. We threw out about 70 dead ones this a.m.

Feb. 11

Tumco Mine, 5 mi. N + 2 mi. E Ogilby, Imperial Co., Calif.

In a straight horizontal tunnel about 50' long we caught one between 8:00 + 9:00 p.m. In another longer Y-shaped tunnel we got another and lost one, probably the same kind. One of those caught was a ♂ & one a ♀. Carl saw 3 other bats which may also have been



M. Koford
1947-9

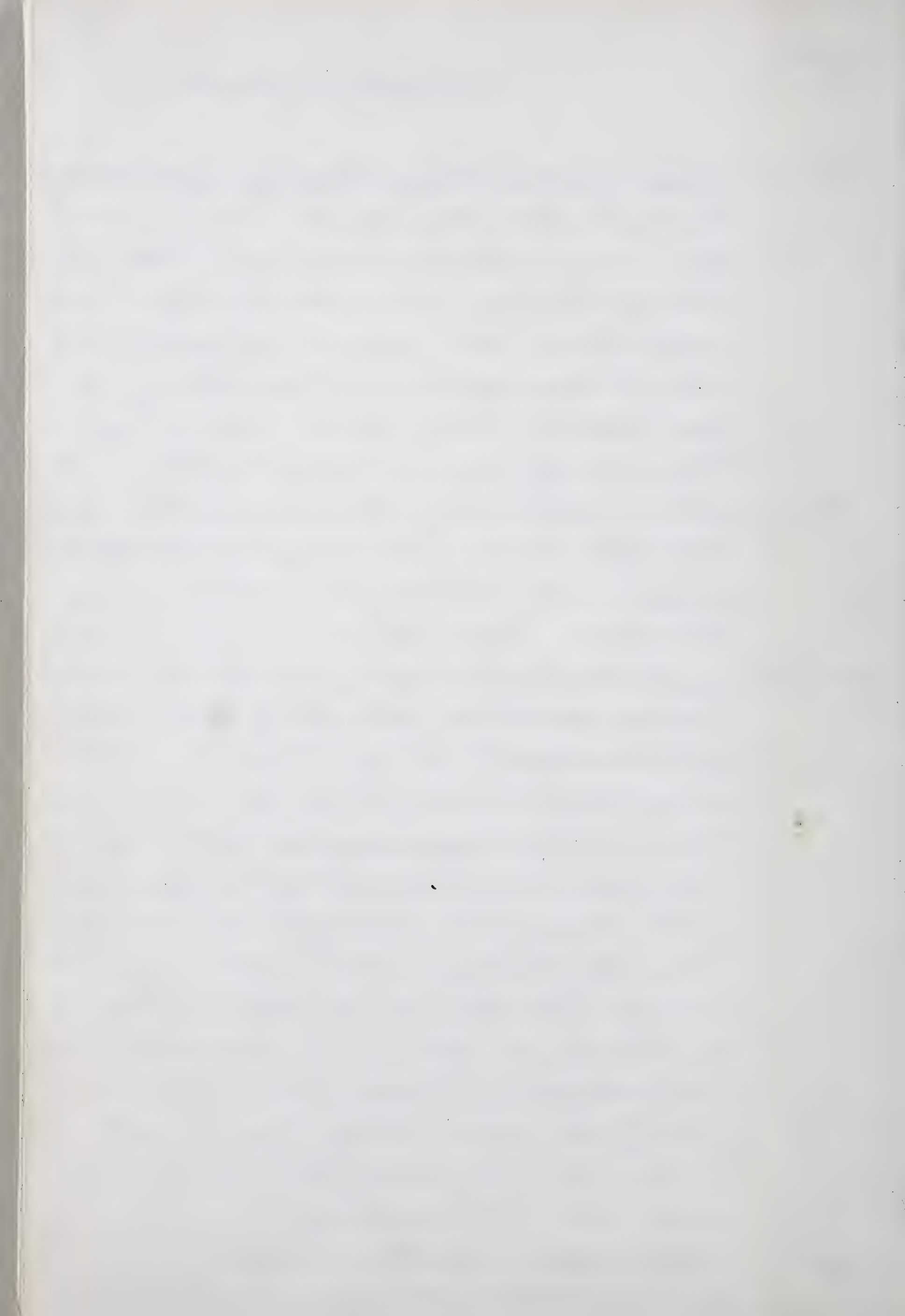
Macrotes californicus

Feb. 11 Tumco Mine, 5 mi. N + 2 mi. E Ogilby, Imperial Co., Calif.
the same, since this was the only kind we got in any of the tunnels here. These flew out of ~~vertical~~ holes when he threw rocks down them, each from a different hole, two of them vertical and one sloping. We had looked at the tunnels where we got the bats by day and found nothing. At

Feb. 12 2:00 a.m. we got 2 ♂♂ in the tunnel which had two bats before. This tunnel for no apparent reason is considerably warmer than any of the others. These last two bats we released.

April 10, 1949 7 mi. S Vidal (San Bernardino Co.), Riverside Mts, Riverside Co.
Just at dusk Carl went into the tunnel where we got the Macrotes Feb. 1947. They were in the same place where we found them before, and there were also Corynorhinus nearer the entrance. We caught 5 Macrotes (4 ♂♂ with very small testes and 1 ♀-pregnant). During the night (11:00 pm) there were Macrotes in the tunnels up the other canyon altho there were none there by day. In the morning we went into the Macrotes tunnel and caught a few more looking for ♀♀. We finally got 1 more ♀ (also pregnant) after 10 or more ♂♂. They were active and hard to catch, even in the morning.

April 11 30 mi. NE Yuma, Yuma Co., Arizona
We camped at a mine tunnel in which there



m. Koford
1949

4

macrotus californicus

April 11

30 mi. NE Yuma, Yuma Co., Arizona

were no bats before dark. At 10:00 pm there were about 10 macrotus. I killed 3 - all ♀♀ & all pregnant. The bulges in the uterus measured 16 x 13 mm., 15 x 11 mm., & 14 x 10 mm.

April 12

Tumco Mine, 5 mi. N & 2 mi. E Ogilby, Imperial Co., Calif.

There were Macrotus in one tunnel during the day and in most of them at night. One ♀ was night-roosting in the cabin at which we camped. It looked pregnant but I didn't kill it.

M. T. Ford
1946-7-8

(1)

Myotis californicus - banding record

July 15
(146)

Fork of Waddell Cr., Santa Cruz Co., Calif.
46-15153 im ♀

Mar. 8
(147)

15154 ad ♀
1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

16729 ad ♀ wallpaper

16730 ad ♂ "

May 4

2 1/4 mi. SSE Wilbur Springs, Colusa Co., Calif.

26456 ad ♂

Apr. 19

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

26009 ad ♀ released May 23

Aug. 3

1 mi. SE Inverness, Marin Co., Calif.

26791 im ♀

26792 ad ♀

26793 ad ♀

26794 ad ♀

26795 im ♀

26796 im ♀

26797 ad ♀

26798 ad ♀

26799 im ♂

26800 ad ♀

26801 im ♀

26802 im ♂

26803 ad ♀

26804 ad ♀

26805 im ♀ (other house)

Oct. 20 '48 1.3 mi. SE Inverness, Marin Co.

47-256 ♀ 8:30, 10:00

7 ♀ " "

8 ♂ 12:00

M. Koford
1948
-50

Myotis californicus

'48 Dec. 15 1.3 mi. SE Inverness, Marin Co.

47-279 ♀

'50 March 11 49-123537 ♀

♂ ♀

M.C. Ramege
1945

1.

Myotis californicus

June 3

1 mi. NW Old Fort Tejon, Kern Co., Calif.

In an old stone power house with a corrugated sheet iron roof which housed large numbers of Myotis yumanensis under the edges of the metal roofing along the ridge pole and Tadarida mexicana between the walls and the roof at the ends of the building, we found 2 Myotis californicus in rather open spots on the supporting beams of the roof where there was space for a short distance between the beam and the roof. The Tadarida, we had to grab with forceps as they crawled along, and the Myotis yumanensis had to be shot after being chased from their hiding places, but the Myotis californicus could be caught by hand.

June 4

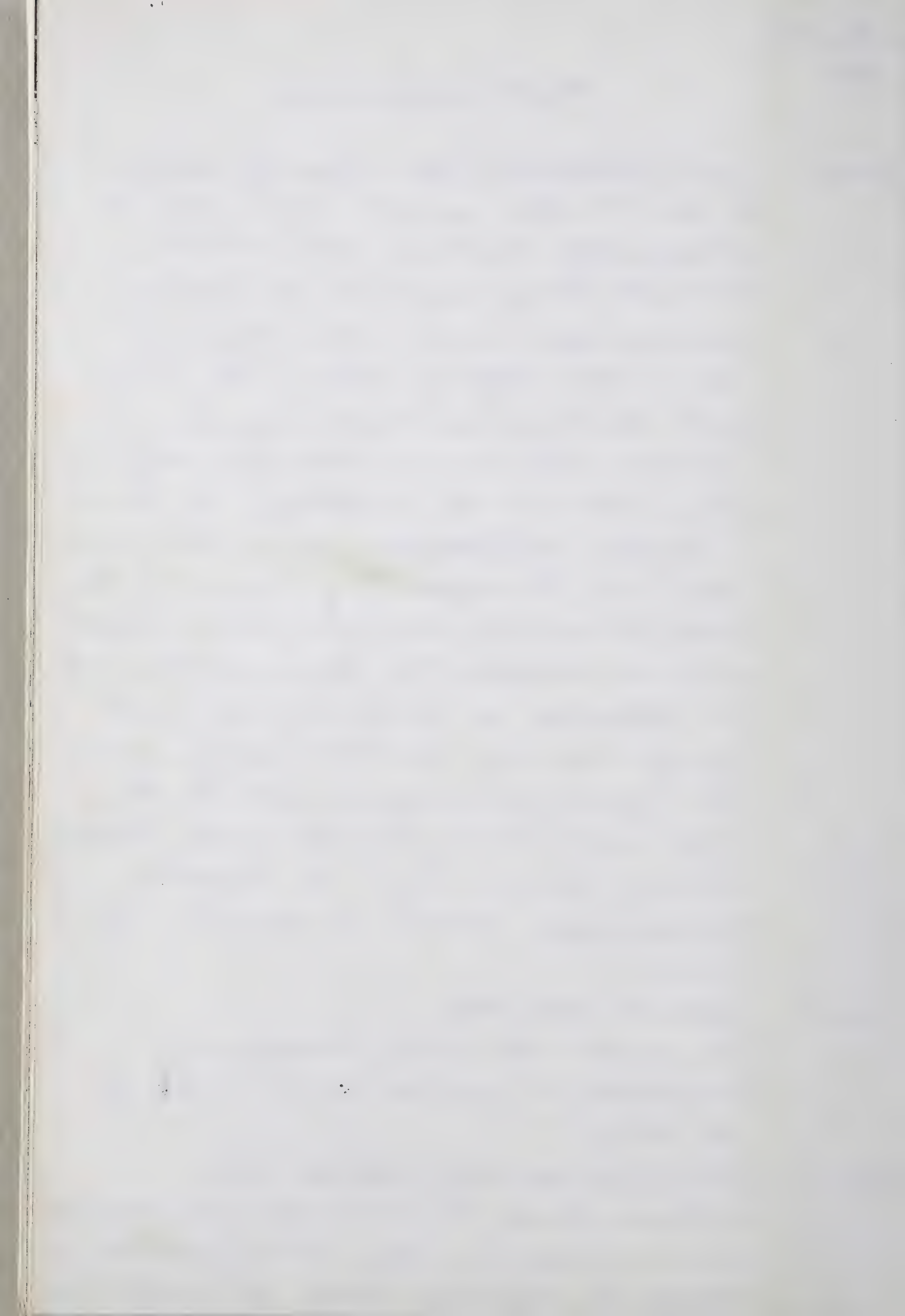
Lebec, Kern Co., Calif.

We caught 1 at 11:00 PM hanging up temporarily in a shed at corner of the hotel.

Sept. 9

3 mi. E Pescadero, San Mateo Co., Calif.

Dr. Benson found 1 [♀] in the attic of an abandoned house on top of a beam in the space between two of the supporting boards of the roof. There



M.C. Ramage
1945

Myotis californicus

Sept. 9

3 mi. E Pescadero, San Mateo Co., Calif.

were many such spaces, a few of them closed at one end where the boards did not meet evenly on the two sides of the beam. It was in such closed spaces that we got this bat and the other two we found there - 1 ♂ *Myotis thysanodes* and 1 ♂ *Myotis yumanensis*.

2 mi. E Pescadero, San Mateo Co., Calif.

Dr. Benson got 4 ♀♀ in the attic of an old house.

Forks of Waddell Creek, 100 ft., Santa Cruz Co., Calif.

Pounding on the shake roof of a cabin brought out 1 *Myotis californicus* ♀, 2 *Myotis* ♀♀, 1 *thysanodes* ♂, & 1 *yumanensis* ♂ which Mrs. Benson knocked down as they flew about inside the cabin.

Sept. 10

Under the shakes on the roof of the same cabin we got 2 *Myotis yumanensis* and saw at least 1 *californicus* which got away. It was afternoon and the bats were warm and active.

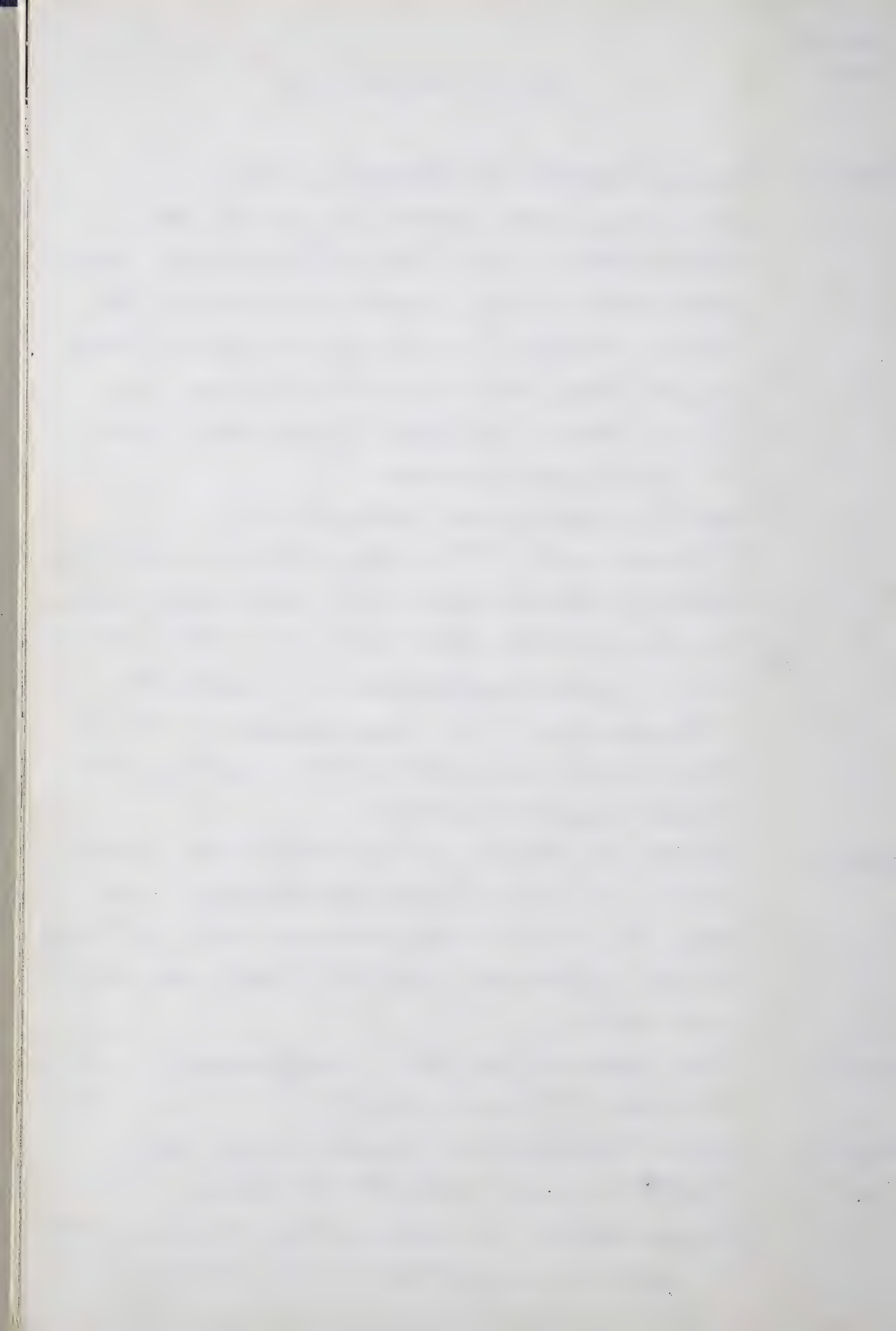
Sept. 11

This morning we got 1 *californicus* ♀ under a shake of the same roof.

Sept. 12

1 1/2 mi. SW Boulder Creek, Santa Cruz Co., Calif.

We got one in an abandoned house - it was flying about the room when we saw it. The walls were papered on the inside.



1945

Myotis californicus

Sept. 12

Carmel Highlands, Monterey Co., Calif.

We looked at the Peter Pan Lodge where Bob Storer had told us of a colony of *Myotis californicus* but found no bats. The woman told us they had had bats in the attic but a man came periodically and ran the exhaust of his car up there to drive them out.

1 mi. NW Talarcitos School, 400', Carmel Valley, Monterey Co.

Dr. Benson shot one flying over the road at dusk.

Sept. 13

Lewis Creek, 1100', 6 mi. N + 12 mi. E King City, Monterey Co., Calif.

One in an awning over the porch and two between gunny sacks piled over a wire in the barn.

Lewis Creek, 1300', 5 mi. N + 15 mi. E King City, Monterey Co.

We got 4 as they flew about inside an abandoned house. Some of them came out of an old rag wadded up and hung over the window and some apparently came from the attic.

Sept. 14

Clear Creek, 2900', 5 mi. SW New Idria,

San Benito Co., Calif. (Asbestos Mine)

8 ♀♀ in the fold of an old rug hanging on the clothesline.

Sept. 23

2 1/4 mi. SSE Wilbur Springs, 1800', Colusa Co., Calif.

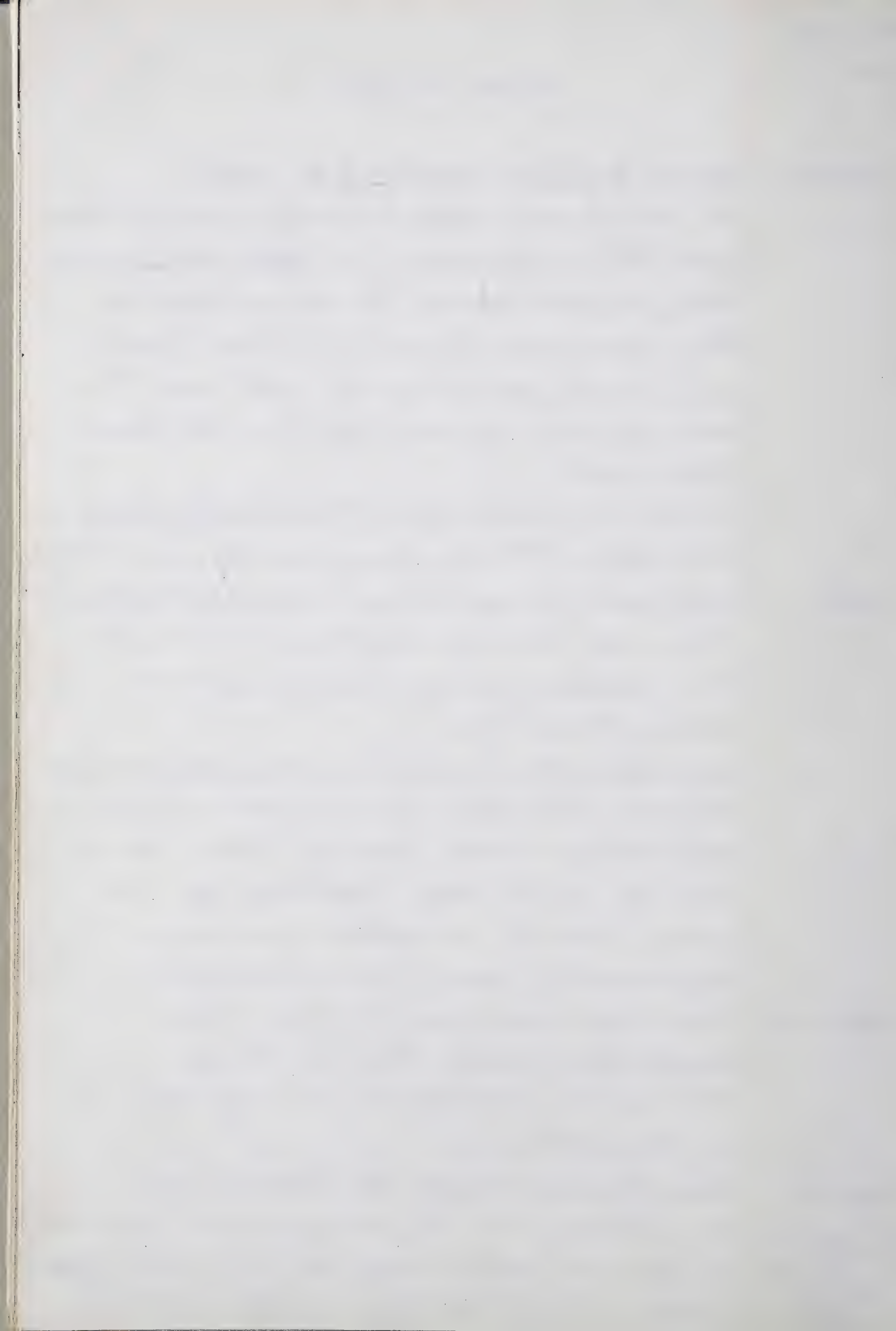
We collected 3 (1 ♂, 2 ♀♀) and saw at least one or two more which escaped, in an abandoned house. We found them under paper on

M. C. Ramage

264-5

S. B. Benson

9H24



M.C. Ramage
1945-6

Myotis californicus

Sept. 23

2 1/4 mi. ESE Wilbur Springs, 1800', Colusa Co., Calif.
the walls. They flew readily when disturbed, and very rapidly. The rooms were open to the attic at each end of the house, and the bats flew in and out of the attic as well as out and in open windows. We were able to knock down 3 with nets as they flew by. We also got 2 *Corynorhinus* ^(1♂, 1♀) in the same house.

Dec. 2

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

2 kept these
two alive.

Wade Fox collected 2 ♀♀ under the wallpaper in an abandoned house from which we also got 1 *M. yumanensis* (♂) and 4 *Eptesicus* (2♂♂, 2♀♀) under wallpaper in different parts of the house.

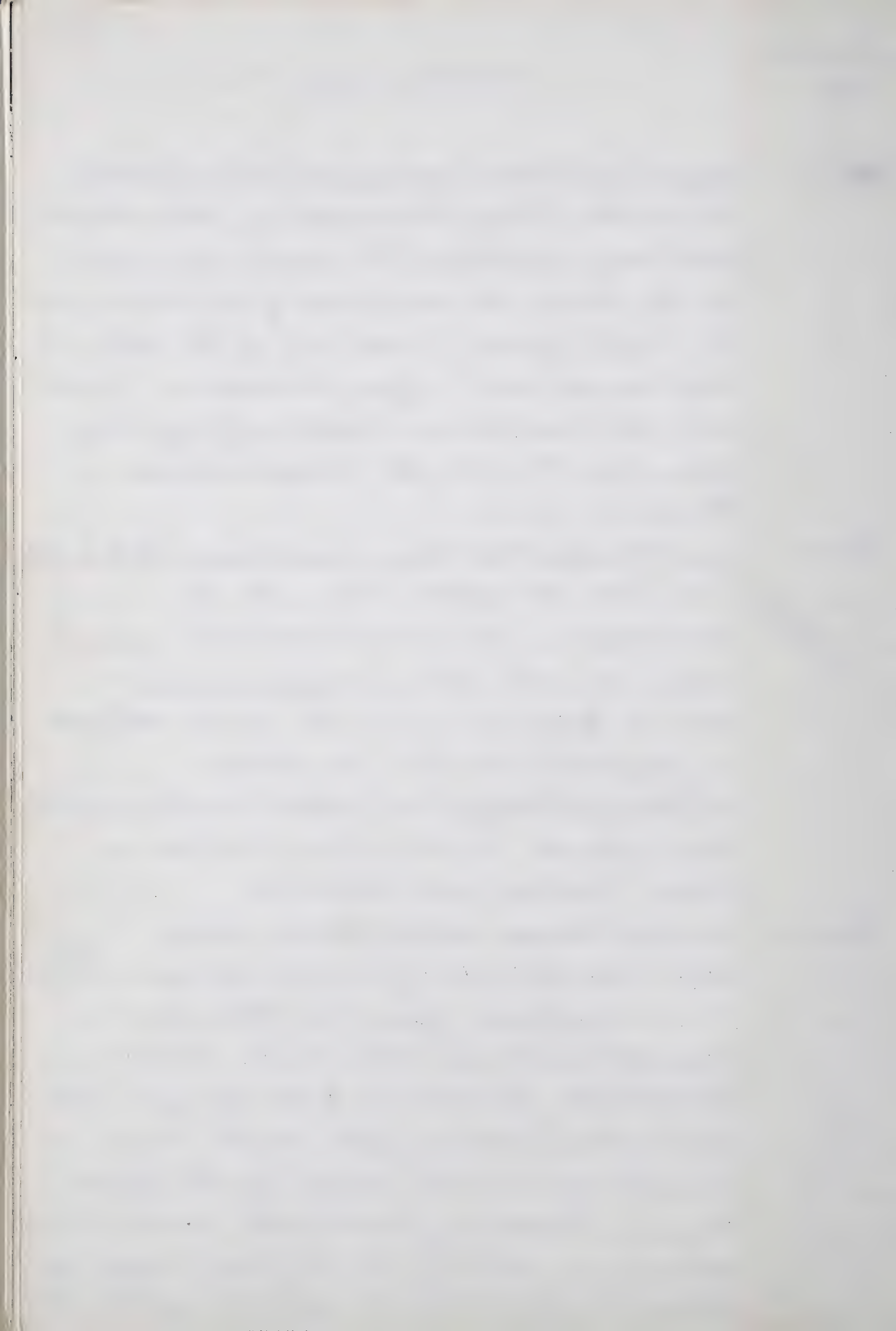
nr. Copsey Creek Bridge, 4.7 mi. by road S Lower Lake, Lake Co., Calif.

Wade found 1 ♀ in a barn between a beam (vertical) and the wall.

April 13

Wildcat Canyon, Contra Costa Co., Calif.

a ♀ was found by the Zool. 113 class ^{at} 10:00 a.m. 1/4 mi. upstream from the Polo field on Wildcat Creek in Tilden Park. William Donaldson found the bat lying on top of a rock (about a foot across - one of a number of similar rocks by the stream) heavily shaded by laurel, alder, & oak. It was not in any sort of crevice and made no attempt to fly altho no injury was apparent.



M. C. Ramage
1946

Myotis californicus

July 15

Forks of Waddell Creek, Santa Cruz Co., Calif.

Pounding on the roof of one of the small cabins by the sawmill chased out one bat which flew inside the cabin and then out and into the other cabin next to it. Chasing it into this cabin, we found three bats flying about. We caught two of them, adult ♂♂ M. californicus, with the net. Under the shingles of the cabin where we got the M. californicus (also evotis, thysanodes, & yumanensis) on Sept. 9, 10, 11, 1945, we got 2 more adult ♂♂, 1 lactating ♀, and 1 young ♀. I kept the ♂♂, and banded and released the 2 ♀♀. We disturbed several other bats in this roof, and those we were able to get a look at were M. californicus.

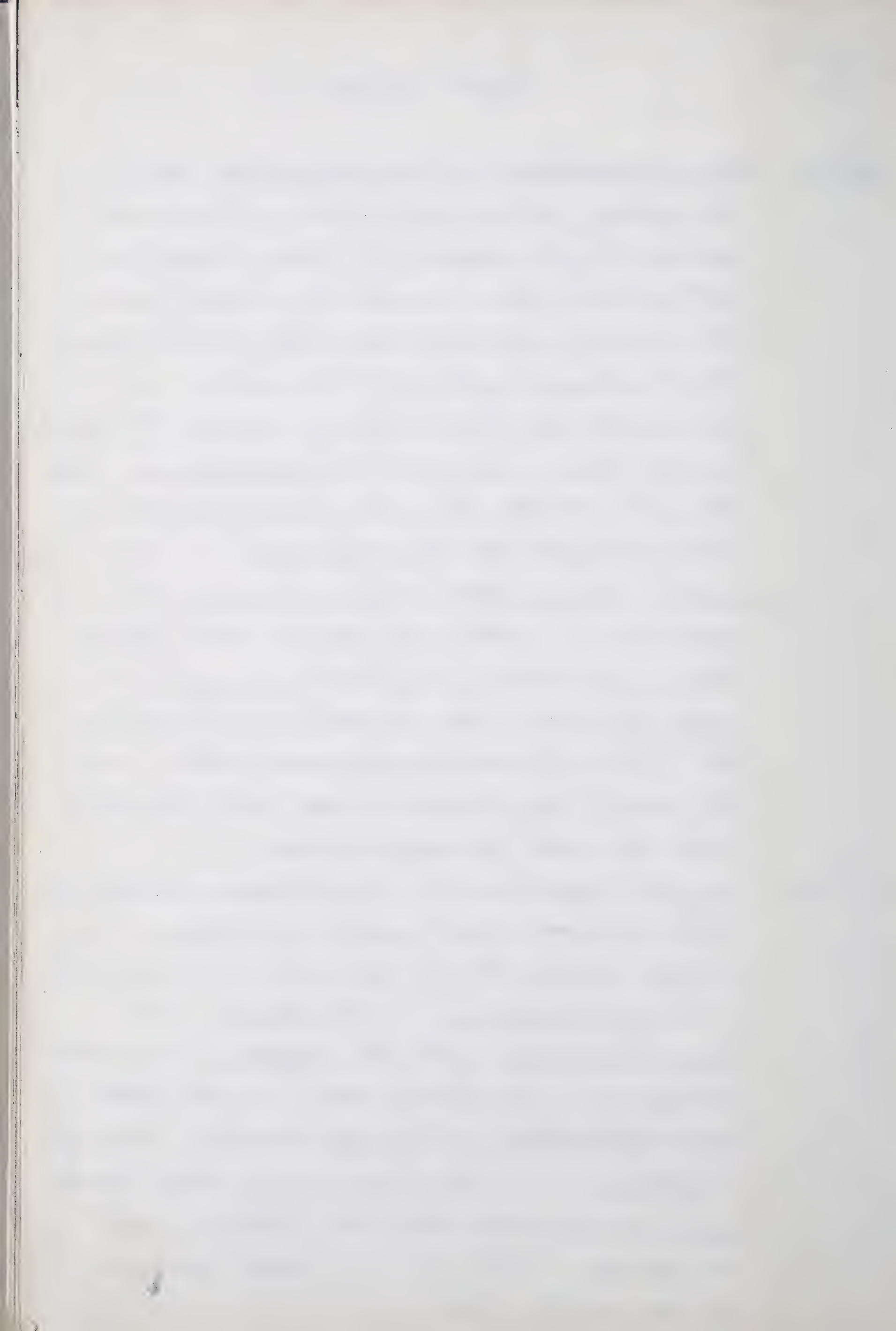
Oct. 20

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

Two ♂♂ were collected under wallpaper in an empty house. At the same time we found 17 M. yumanensis, 1 M. volans, & 4 Corynorhinus. All the Myotis were under wallpaper. On Dec. 2, 1945, we got ~~2 ♂♂~~ M. californicus, 5 M. yumanensis, 1 Antrozous, 2 Eptesicus, & 1 Corynorhinus in this house.

4 mi. E + 1.4 mi. S Lower Lake, 1300', Lake Co., Calif.

We found 3 (2 ♂♂, 1 ♀) in a sack hanging in an empty shed.



H.C. Ramage
1946

6.

Myotis californicus

Oct. 20

4 mi. E & 1.8 mi. S Lower Lake, 1375', Lake Co., Calif.

In an empty house, we got 1 ♀ under wallpaper, and 2 *Corynorhinus* in the same house.
Etiewera Creek, 450', 8 mi. NNE Monticello, Napa Co., Calif.

We found 2 ♀♀ under wallpaper in an abandoned shack.

Dec. 1

1/2 mi. NW Rumsey, Yolo Co., Calif.

In an old stable at an abandoned house we found 3 ♀♀ under wallpaper. Two of them were in knot holes in the wall so that they could not be felt by running one's hand over the wallpaper but were only located by their squeaking at this disturbance. The building was open on one side and quite light. All were saved as specimens and proved to be very fat.

Dec. 29

2 mi. S Cloverdale, ^{Sonoma} ~~Mendocino~~ Co., Calif.

In an empty house we found 1 ♀ hanging in the folds of a garment hung on a nail on the stairway. The bat seemed small & thin.

Feb. 5

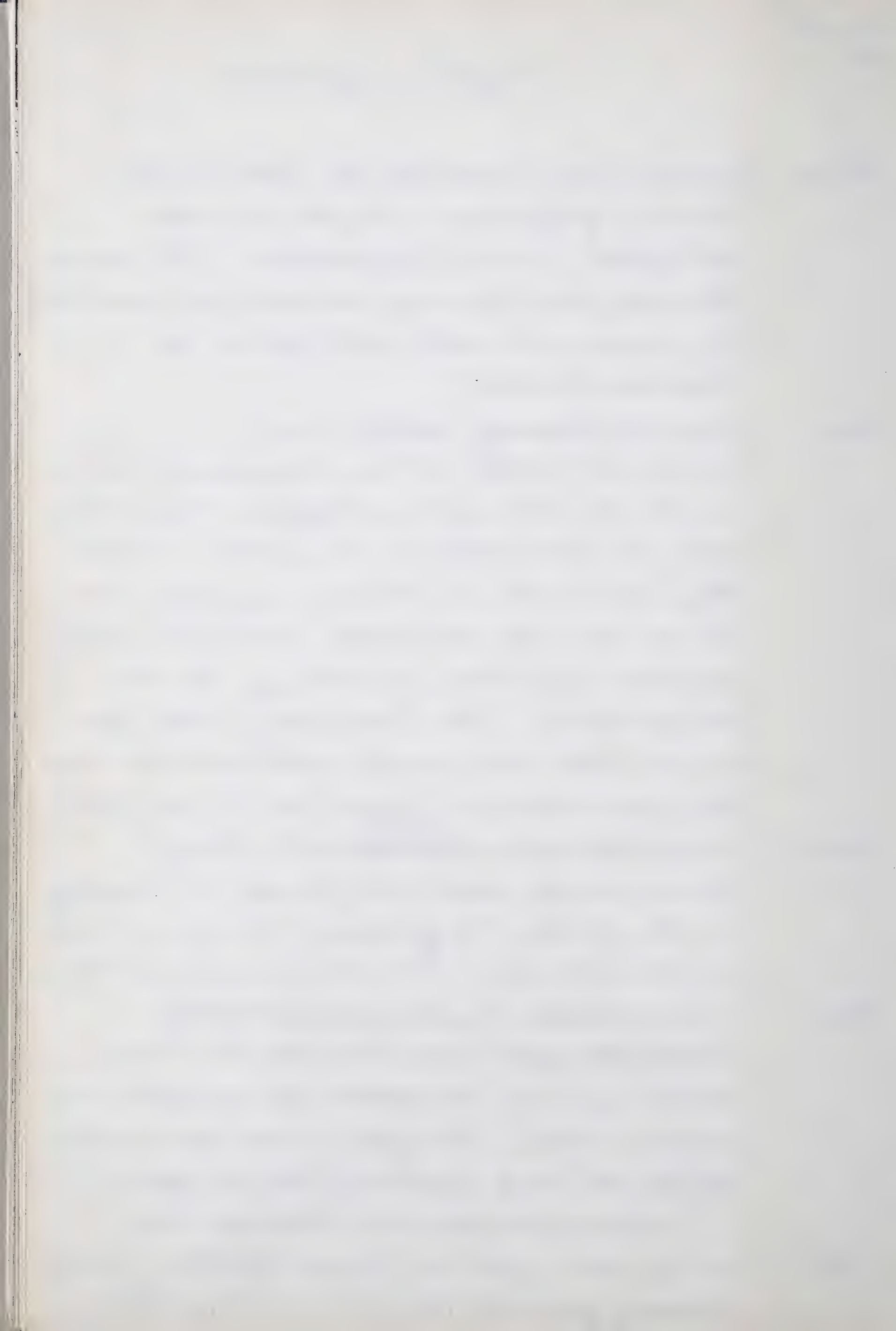
4 mi. N Needles, San Bernardino Co., Calif.

On the west wall of a shed near the River, under a piece of corrugated iron nailed over a screen wall, Carl got 1 ♂ and saw another which got away (probably the same species).

1 *Tadarida mexicana* also collected here.

Feb. 6

In the same spot we found another (♂) this morning, perhaps the one we lost yesterday.



M. Koford
1947

Myotis californicus

7.

Feb. 11

Tumco Mine, 5 mi. N + 2 mi. E Ogilby, Imperial Co., Calif.

Carl shot 1 ♂ flying round & round an old house at dusk. Another bat which may have been the same thing was flying around the house and in and out of it.

Feb. 17

4 1/2 mi. SE Parkfield, Monterey Co., Calif.

In an abandoned house Carl found one ♂ & one ♀ in an old coat hanging on the wall, one in the armpit under each sleeve. The house has had many bats judging from the accumulations of droppings under the wallpaper.

1/2 mi. W Parkfield, Monterey Co., Calif.

At another abandoned house with the sign "Rancho de el Chorro" over the gate, also very batty, ^{clan} ~~the~~ McMillan found one ♀ under the wallpaper.

March 8

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the old house here, Dr. Benson found 1 ♂ & 1 ♀ under wallpaper in the same room, both of which we banded and released.

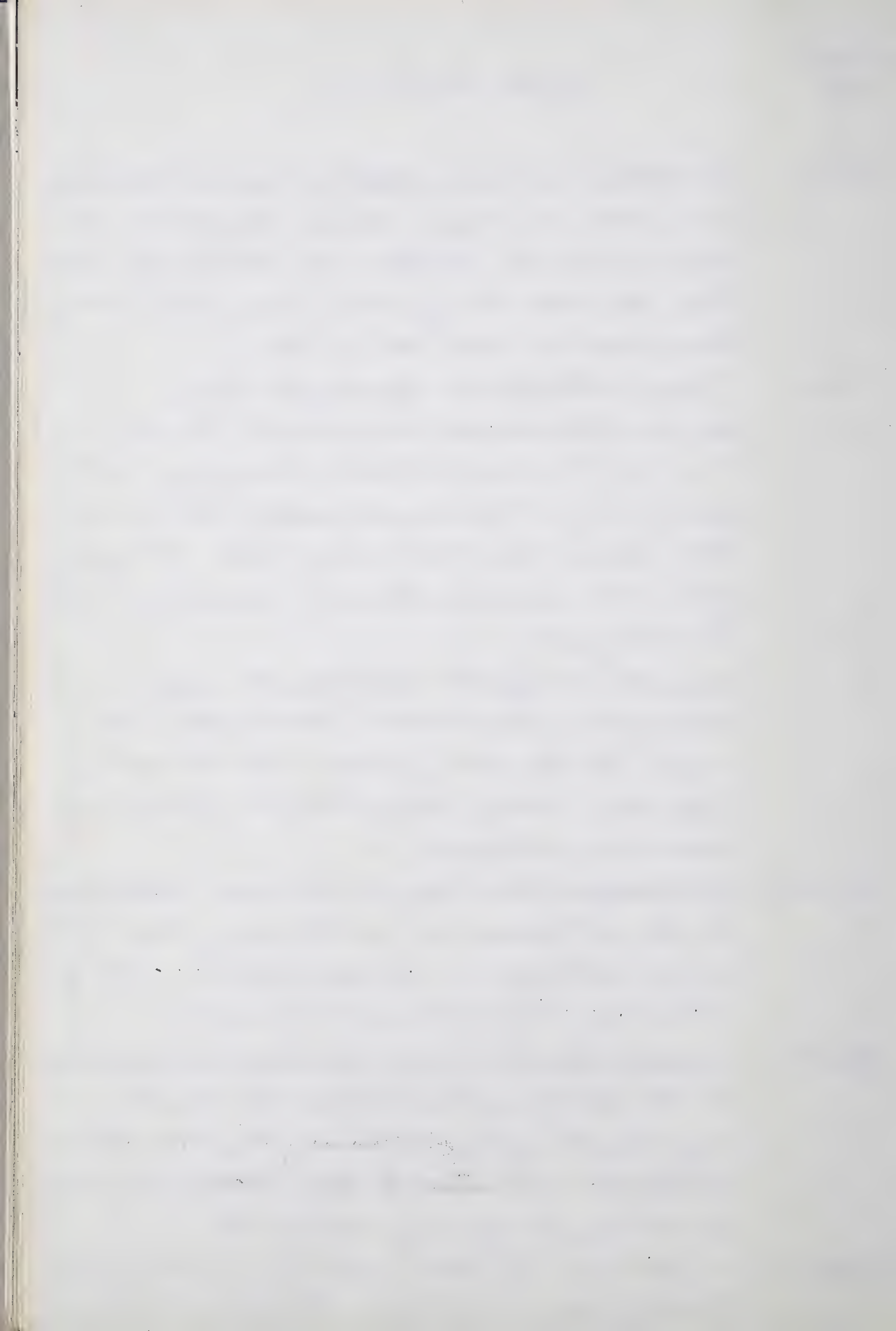
April 19

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the old house which we have been visiting regularly this year, Dr. Benson found 1 ♀ under wallpaper. I banded it, but brought it back to Berkeley for feeding experiments.

(April 21)

I fed this bat this morning. It ate termites readily from the forceps. Fly larvae and pupae,



M. Koford
1947

Myotis californicus

April 21

Berkeley

it would recognize as food, seizing them from the forceps, but seemed to have trouble chewing. It spit out the pupae usually without getting out much of the inside. It retained the larvae in its mouth for several minutes, chewing on them with apparent great effort, and finally spit ~~them~~ out all but the softest parts. Termites however it ate whole with about 20 seconds of chewing, sometimes discarding the heads. This behavior is similar to that observed in the one other *M. californicus* which I have kept, in contrast to that of several *yumanensis* and *thysanodes* which have taken fly larvae and pupae readily with no apparent difficulty in chewing them.

May 4
~~April 19~~

2 1/4 mi. SSE Wilbur Springs, 1800', Colusa Co., Calif.

1 ♂ under wallpaper in abandoned house
- fairly active.

May 23

1 mi. NE Sulphur Bank Mine, Lake Co.

I released the bat collected April 19 at 5:30 pm on the road outside the gate to the house. It disappeared into a nearby tree.

July 16

1.3 mi. SE Emverness, Marin Co., Calif.

In a stable in the attic of which is a



M. T. Koford
1947Myotis californicus

July 16

1.3 mi. SE Inverness, Marin Co., Calif.Corynorhinae colony, & found 2 M. californicus.

One was inside a folded canvas lying on the floor in a downstairs room. The door to the room was kept shut and it was not evident how the bat got in.

This was an adult ♂. The second was clinging on the ~~inside~~ ceiling in the light part of the attic, probably having crawled out of a crack after the Corynorhinae began flying about the room. This one was an immature ♂.

Aug. 3

1.3 mi. SE Inverness In a little cabin about

10x12' on the same property we got an ^{imm.} ~~ad.~~ ♀ and imm. ♂ hanging in the open up against the ridgepole. The cabin was light inside and quite newly painted.

1 mi. SE Inverness In Dr. Benson's little cabin which he built about a month ago we found 14 M. californicus. They were on the outside between some tarpaper and the wood over the door. There were no bats here when he left it on July 15. We banded them: 8 ad. ♀♀, 4 imm. ♀♀, 2 imm. ♂♂.

In the cabin of his neighbor to the south, Dr. Benson got 1 imm. ♀, which we also banded.



M. Koford
1947-8

Myotis californicus

Sept. 10

2 mi. S & 5 mi. E Shandon, San Luis Obispo Co., Calif.

We spent the evening by a water trough here, and when it was almost dark a few small bats began flying over the water. The first two we got were *M. californicus* ♂♂, and a third was a ♀ *M. subulatus*. Usually we saw only one bat at a time. When we began firing the bat would rise higher against the light sky so it could be shot. The trough is situated ^{in rolling country} in the bottom of a canyon on the fence between brush ^(down the canyon) and grassland ^(up).

Sept. 11

Cammatti Cr., 1450', San Luis Obispo Co., Calif.

Around a round water tank and a cattle watering trough ^{"Sulphur Trough", about 2 mi. downstream from above locality}, there were many small bats ^{rolling} flying. The country is open with scattered brush and trees. The nine bats shot were all *M. californicus* - 4 ♀♀ & 5 ♂♂. The testes of the ♂♂ varied from 3 to 6 mm. in length. I strung 3 wires across the surface of the water in the round tank but none of the bats hit them although they were flying down and touching the surface.

Feb. 28

2 1/2 mi. ENE Pescadero, San Mateo Co., Calif.

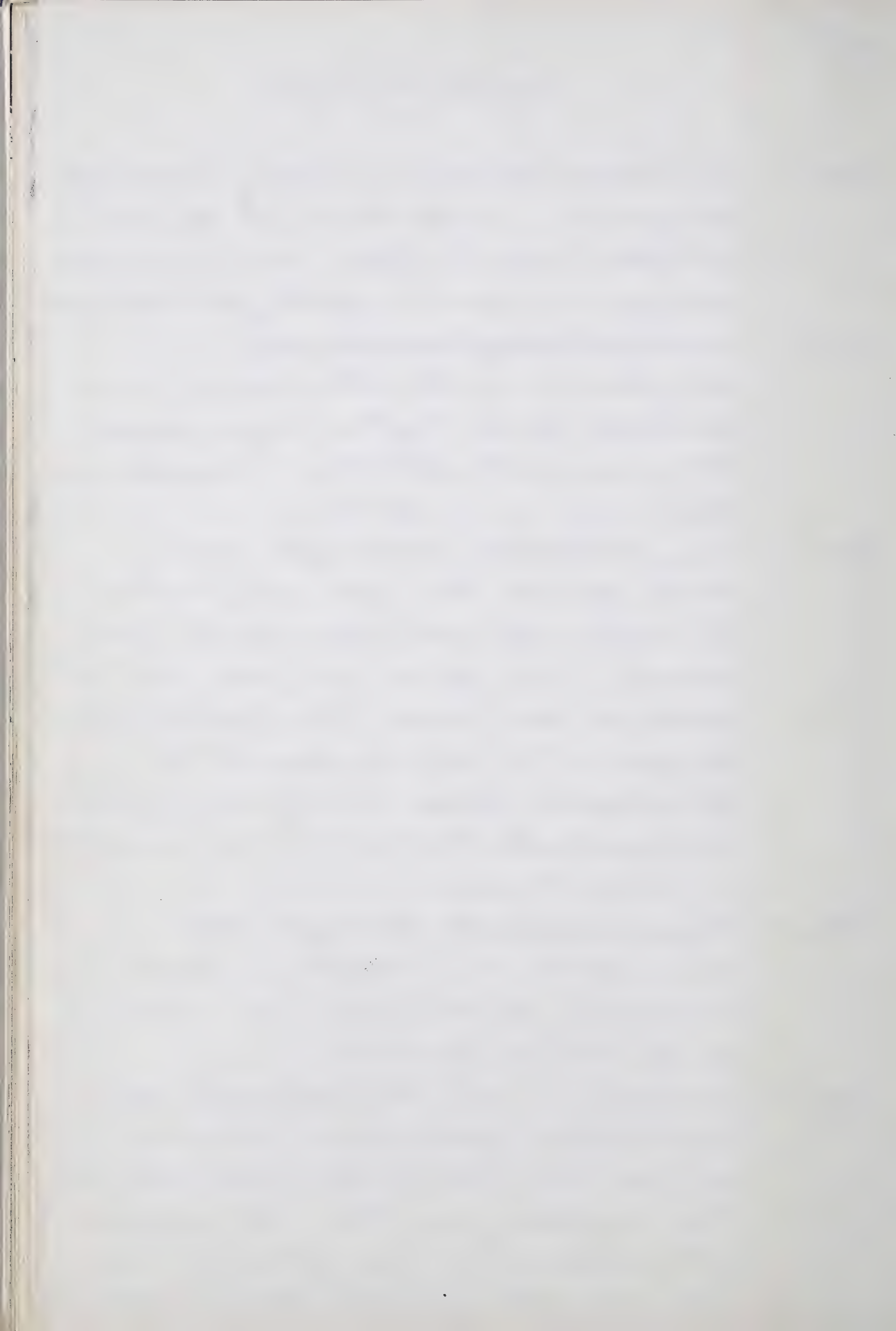
I found 1 ♂, very torpid, under wallpaper in a room at the back of the garage of an abandoned house.

M. Koford
1948

11

Myotis californicus

- Mar. 5 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
Carl found 3 in the old house. 1[♀] was under wallpaper 2' from the floor. 1[♂] & 1[♀] were under wallpaper in a closet 4' from the floor about 6' apart.
- Mar. 6 3 mi. W Healdsburg, Sonoma Co., Calif.
Carl found 1[♂] in old clothes hanging in an abandoned house. He got 1[♂] *M. yumanensis* here in a similar situation. The *californicus* had no claw on its left thumb.
- April 9 4½ mi. SE Parkfield, Monterey Co., Calif.
In the same old coat where we found the *M. californicus* under the armpits last February, Carl found 2^{♀♀}, this time both under the same arm. One escaped from the sack on the highway opposite the "*M. subulatus* house" southwest of Cholame. The reproductive tract of the one saved I gave to Pearson.
- Aug. 14 4½ mi. SE Parkfield, Monterey Co., Calif.
Carl found 1[♂] (immature?) under wallpaper in the old house here; nothing in the coat in the closet.
- Aug. 15 Cammatti Cr., 1450', San Luis Obispo Co., Calif.
At the Sulphur Trough we got 4^{♂♂} with a net over the lower trough after dark. They were very thick for a while (all *californicus*?) but disappeared an hour after dark. I threw away 2 (immatures) and kept 2 (perhaps immatures also).

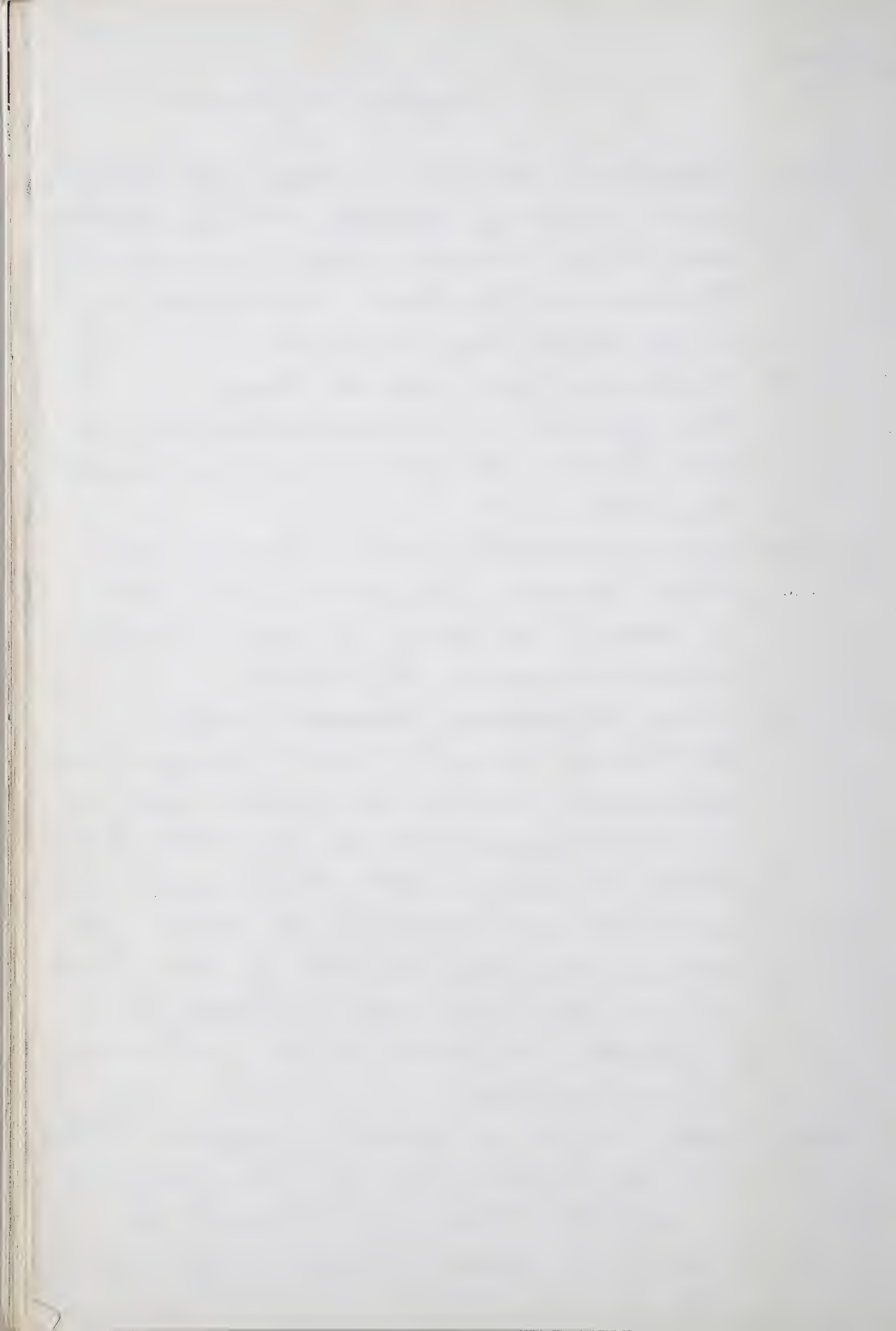


M. Koford
1948

12

Myotis californicus

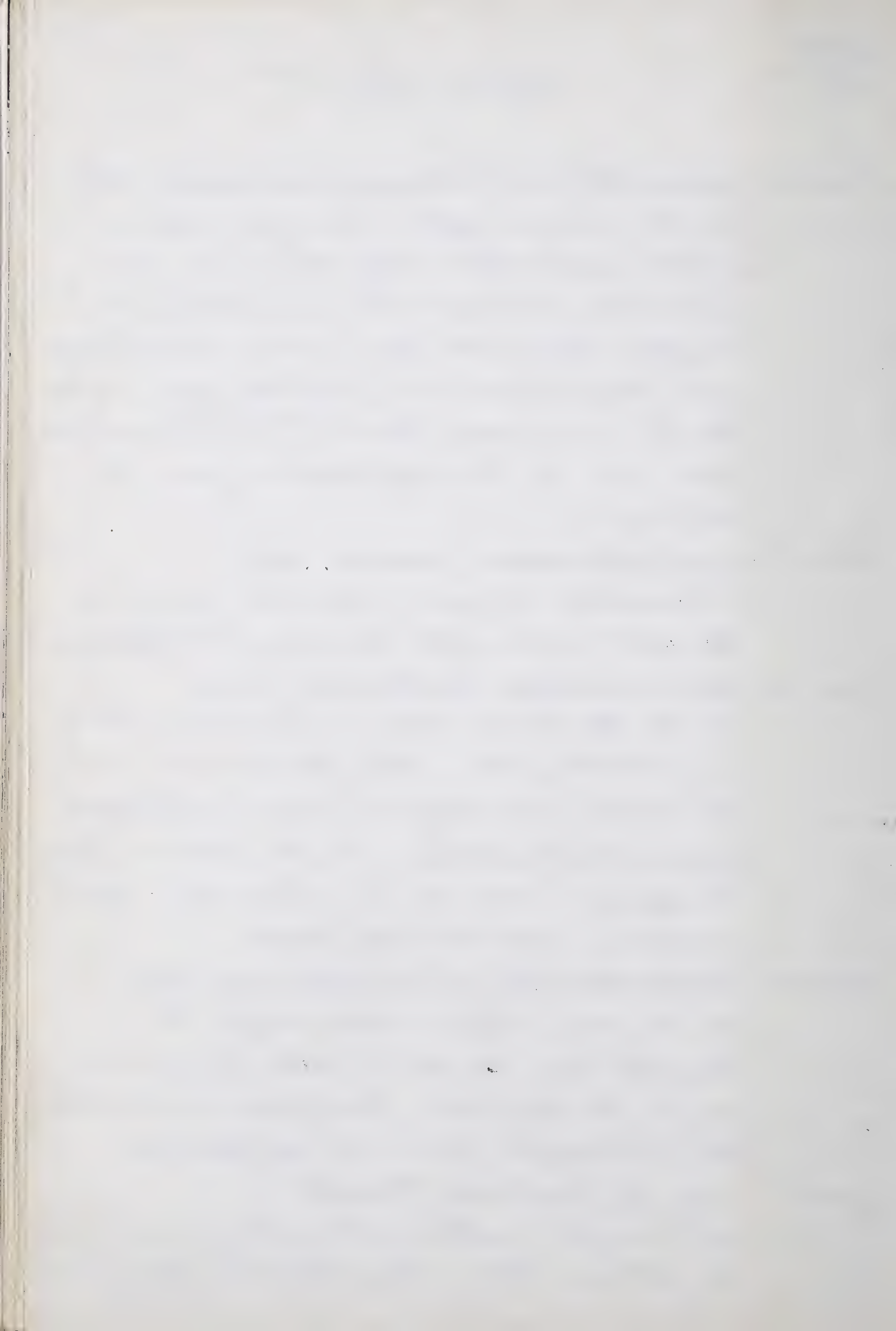
- Aug. 17 Hopper Ranch, 2400', 1½ mi. SE Hopper Mtn., Ventura Co.
after shooting Eptesicus and Pipistrellus
over the open meadow, Carl went over by
the trees near the barn and shot a
♂ M. californicus (immature?).
- Aug. 23 White River, 1050', Kern Co., Calif.
Carl found 1 ♂ under wallpaper in an
old house. It flew and he caught
it with a net.
- Aug. 24 1 mi. W Isabella, 2500', Kern Co., Calif.
Carl caught 1 ♂, active, at 4:30 am
in one of a group of mine tunnels
where we spent the night.
- Oct. 20 1.3 mi. SE Inverness, Marin Co., Calif.
At 8:30 pm we caught one ♀ flying in the room
downstairs next to the garage and 1 ♀
behind a piece of tin on the wall at the
stair landing. Both were banded and
released at the foot of the stairs. At
10:00 pm we caught both of these bats
flying upstairs and released them
outside. At 12:00 we got 1 unbanded ♂
flying upstairs.
- Nov. 5 At 6:00 pm I found a torpid ♀ ^{behind} ~~under~~
the same piece of tin on the landing.
I killed it Nov. 7 and saved the
reproductive tract for Dr. Pearson. It
was quite fat.



M. Koford
1948-9

Myotis californicus

- Nov. 12 Jackass Hill, 5 mi. W Sonora, Tuolumne Co., Calif.
In the cabin we got 1 hanging from a rafter just before dark and one flying after dark. Several other unidentified *Myotis* came out from behind wallpaper and flew about the lighted cabin after dark. In a mine tunnel, ^{after dark,} near the entrance, were 1 ♂ & 1 ♀ clinging together from the ceiling.
- Dec. 15 1.3 mi. SE Inverness, Marin Co., Calif.
I banded 1 torpid ♀ behind the tin on the wall on the stair landing. (See *Eptesicus* acct.)
- March 16 3 mi. E Pescadero, San Mateo Co., Calif.
In the old house where we found no bats in February, 1948, Carl found 2 ♀♀ & 1 ♂, all single and torpid behind wallpaper.
2½ mi. ENE Pescadero, In the rooms behind the garage, Carl got 1 ♀, active when first detected, behind wallpaper.
- March 19 Abbott Mine, 1900', 24 mi. E Lakeport, Lake Co.
In the same tunnel where we got the *Corynorhinus*, we saw 2 bats flying as we were on the way out. One flew out, but the one we caught was a *M. californicus*.
- June 11 1.3 mi. SE Inverness, Marin Co.
Carl caught 2 with a net as they flew close to Golden's barn. They started flying at 7:45.



M. Koford
1950

14

Myotis californicus

Jan. 2 Knorville, Napa Co., Calif.

Anita caught an active ♀ at 7:30 pm in the tunnel by the road. Temperature outside was below freezing, inside 13.8°C.

March 11 1.3 mi. SE Inverness, Marin Co.

Behind the tin on the wall on the stairs landing of Golden's barn were 2 ♀♀ along with M. thysanodes and gumanensis. We banded them.

May 7 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

In the attic were 2 ♂♂ with a ♂ M. gumanensis in one pair of hanging trousers, and a ♀, flying when first seen.

m.c. Ramage
1945-6

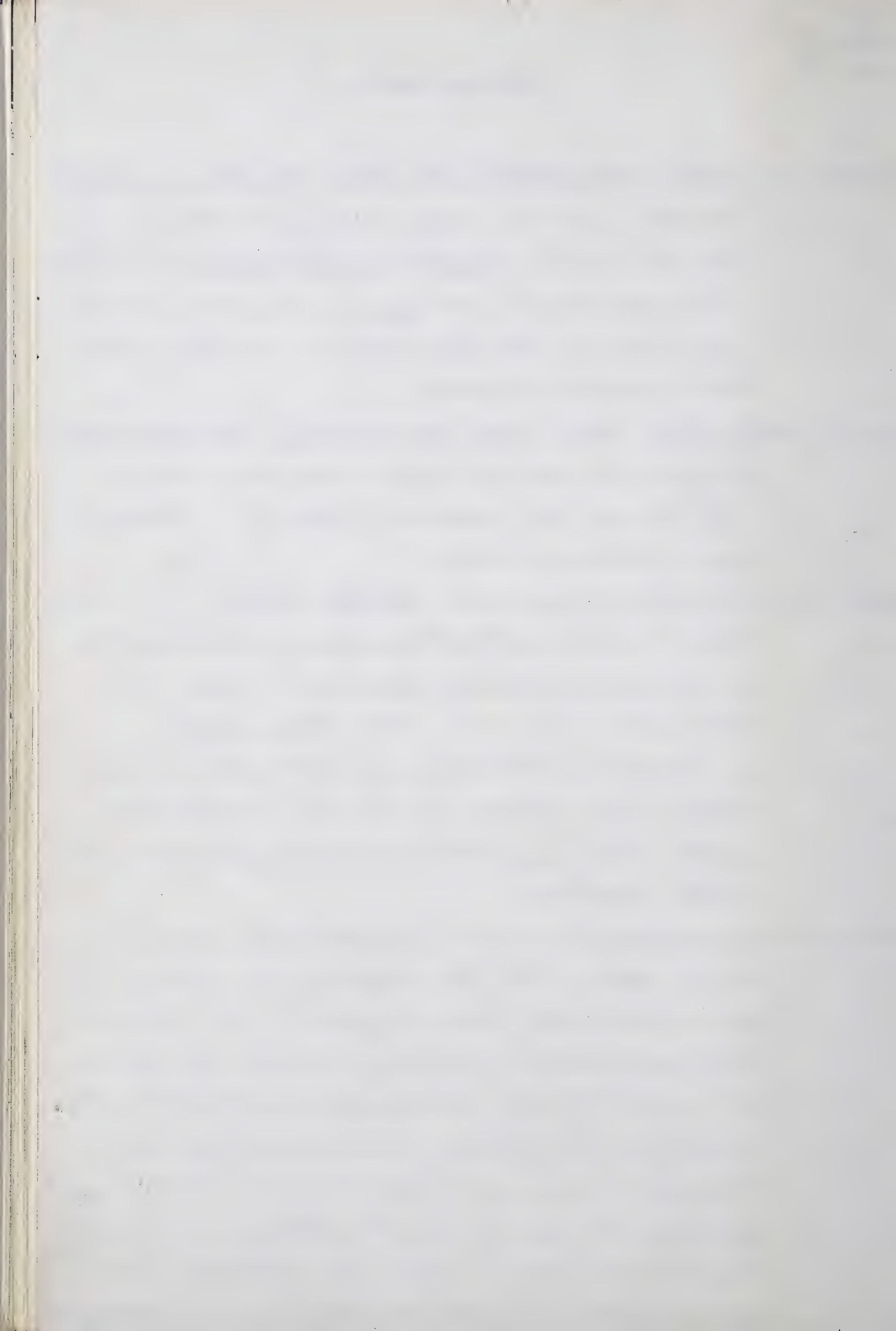
Myotis evotis

Sept. 9 '45 Forks of Waddell Creek, 100 ft., Santa Cruz Co., Calif.
Pounding on the shake roof of a cabin brought out 1 Myotis californicus ♀, 2 ^{♀♀} evotis 1 thysanodes ♂, & 1 yumanensis ♂ which Mrs. Benson knocked down as they flew about inside the cabin.

Sept. 19, '45 Dunbar, 3900', 9 mi. NE Murphy, Calaveras Co., Calif.
We found one at night hanging on a rafter on the ground floor of a large apple-storage shed.

Oct. 19, '46 Lucerne, Clear Lake, Lake Co., Calif.
Two ♂♂ were collected during the night in a mine tunnel, one at 7:00 pm, the other at 12:30 a.m. For other bats collected with them, see Journal. These bats had flown in to rest and had not been present 2 hours previous to either capture.

Feb. 28 '48 2 1/2 mi. ENE Pescadero, San Mateo Co., Calif.
In a room at the back of the garage of an abandoned house I found 1 ♂ between the cardboard wallpaper and the glass of a partly open sliding window (visible through the glass from inside the room). The space was so narrow that its ears were flattened forward & its body was at a 45° slant (head down) rather than vertical. It was very torpid. There were several holes in the uropatagium.



M. Koford
1949

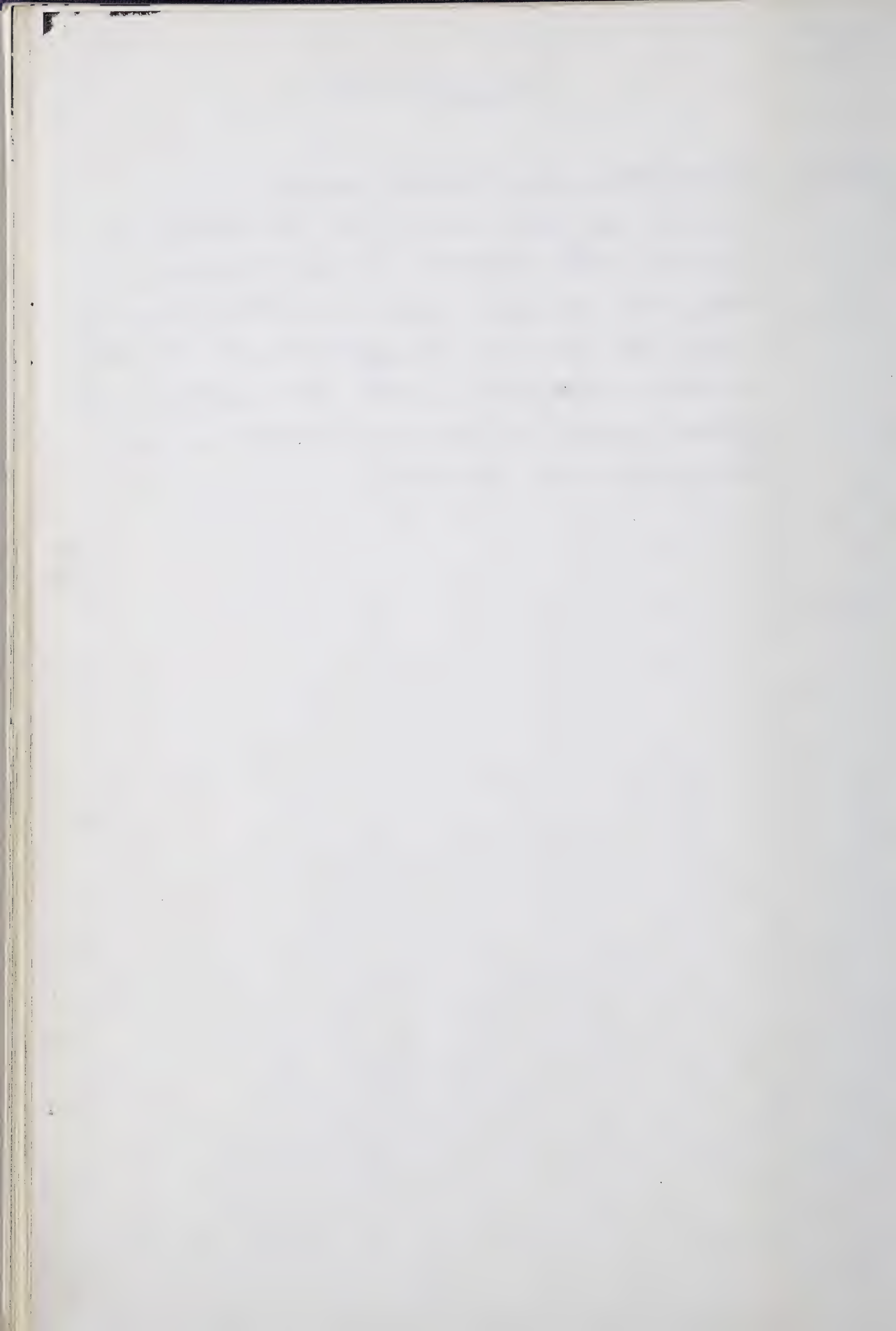
2.

Myotis evotis

June 4

Aetna Mine, 1100', Napa Co., Calif.

Pearson caught one ♂ just at dusk in a tunnel with water in it. At 9:30 pm we thought we saw one in another tunnel and at 11:00 we caught one ♂ in still another tunnel. Both were active and flew fast. For tunnel locations, see Corynorhinus account.



C. Ramage
1945

Myotis lucifugus

Sept. 21

Homewood, 6238', Lake Tahoe, Placer Co., Calif.

Out of 143 bats in a crack between two rafters in J.P. Oberer's boathouse, 2 were ^(1 discarded, 1 prep. S.B. Benson 9402) *M. lucifugus* (1♂, 1?) and the rest ^(119♀♀, 20♂♂, 2?♂) *M. yumanensis*. The bats were cold and fell to the floor when knocked from the crack with a pole, some of them spreading their wings just enough to spiral down and break their fall.

Brockway, 6300', Lake Tahoe, Placer Co., Calif.

With 15 *M. yumanensis* (12♀♀, 3♂♂) in the attic of the Brockway Hotel Kitchen, was one ^(S.B. Benson 9401) *M. lucifugus* (♀). Most of the bats were clinging in the open along the ridgepole and some were in the crack. There had been recently many more bats here than were present at this time. The bats were cold and inactive.

Sept. 23

Lucerne, Clear Lake, Lake Co., Calif.

We collected 38 out of probably several thousand bats in the very large hotel attic. 35 (21♂♂, 14♀♀) of these were *Myotis yumanensis*, and 3 (2♂♂, 1♀) were *M. lucifugus*.

The bats were clinging all over the ceiling, most concentrated along the ridgepole, and at this time (nearly evening) many were flying about. On the east side of the highway, just north of Lucerne, are

S.B. Benson
9496-8

N.C. Ramage
1945-6

Myotis lucifugus

2.

Sept. 23^{'45}

Lucerne, Clear Lake, Lake Co., Calif.

two mine tunnels about 100 ft. deep. We reached these just at dusk, put a net over the entrance to one, and caught what bats we could inside with hand nets and flashlights. The bats would cling to the ceiling of the cave and fly readily at our approach. The tunnel yielded 14

S.B. Benson
9425-6
9432-3
9458-67

M. lucifugus (1♂, 13♀♀), 4 *M. thysanodes* (♀♀),
5 *M. yumanensis* (2♂♂, 3♀♀), and 2 *Corynorhinus* (♂♂).

There were no bats in the other tunnel by the time we got to it, some time after dark.

July 29^{'46}

Brockway, 6300', Lake Tahoe, Placer Co., Calif.

See *Myotis yumanensis*.

July 30

Homewood, 6238', Lake Tahoe, Placer Co., Calif.

See *M. yumanensis*.

Sept. 28

Lucerne, Clear Lake, Lake Co., Calif.

129

See *M. yumanensis*.

Oct. 19

This species was fairly certainly identified as distinguished from *M. yumanensis* in every instance on this visit, so the two may be treated separately. We caught and released 4 ♂♂ at 4:00 p.m., 1 ♂ at 5:00 (already banded in the same tunnel at 10:45 Oct. 28), 3 ♂♂ at 8:00, + 1 ♂ at 12:30, all in the same tunnel. See journal for other bats caught with them.

n.e. Ramage
1946-7-8
-9

Myotis lucifugus

'46 Nov. 16-17 Lucerne, Clear Lake, Lake Co., Calif.
See journal + M. yumanensis account.

'47 May 3-4	See	"	"	"	"
May 23-4	"	"	"	"	"
June 12-13	"	"	"	"	"
July 14-15	"	"	"	"	"
Aug. 10-11	"	"	"	"	"
Sept. 24-5	"	"	"	"	"
'48 Jan. 24-5	"	"	"	"	"
Feb. 13-4	"	"	"	"	"
Sept. 30	"	"	"	"	"
Nov. 23	ditto				

'49 May 12
Aug. 18

Oct. 19 Cassel, 3100', Shasta Co., Calif.

At the old house where Pearsons have found Myotis night-roosting, we found a ♂, probably this species, hanging in the open on the ground floor in the middle of the day, torpid.

n. Koford
1947

Myotis subulatus

May 29

1 mi. SW Cholame, San Luis Obispo Co., Calif.

Ben McMillan collected 4♀♀ on May 25 under wallpaper in an old house west of the highway from Cholame to Shandon just opposite where the road turns off to Palo Prieta. There were more bats of the same kind which he didn't catch. When he put them into the box for shipment one had a young attached. They arrived at MVZ May 28, all alive. On May 28 one gave birth to a dead 20 - mm. embryo ^(46 mm. long when straightened out) all _(measurements: 46-16-10-12, #615) four remained in a torpid state until placed in a cage at 5:30 pm, when they became very active. (They were shipped in a cigar box with a piece of cardboard inside.) This morning they were once more torpid. I put them up today.

June 16

Carl and I found a group of ♀♀ with young in this same house. They were closely grouped under wallpaper at about shoulder height. At least two that we know of escaped. The tally of those caught was 19 adults and 16 young, all of which we mailed immediately to Berkeley. There was a spread of ages of the young from hairless ones to some about $\frac{2}{3}$ the length of the adults.



M. Koford
1947-8

Myotis subulatus

2.

- Sept. 10 2 mi. S & 5 mi. E Shandon, San Luis Obispo Co., Calif.
We spent the evening by a water trough in the bottom of a canyon on the fence between brushland and grassland. When it was nearly dark we saw a bat skimming across the water. When we began shooting at it, it rose high enough to be seen against the sky and Carl shot it. We got two more in similar fashion and saw one or two others. The first two shot were *M. californicus* ♂♂ and the third *M. subulatus* ♀.
- April 9 1 mi SW Cholame, San Luis Obispo Co., Calif.
Carl found one ♀ under ~~wallpaper~~ a piece of paper hanging by a nail from the wall about 5' from the floor. This was in a different room from that in which we found the colony last year. The bat was clinging to the paper rather than the wall. I gave the reproductive tract to Pearson.
- April 24 Painted Rock, ³⁰Carissa Plains, San Luis Obispo Co., Calif.
Eben McMillan shot one ♂.
- April 26 3½ mi. N Parkfield, 3000', Monterey Co., Calif. (Patricuin mine)
Carl caught one ♂ at dusk trying to fly into the main shaft which we had blocked with a net. = *californicus*?
- Aug. 13 2 mi. S & 5 mi. E Shandon, San Luis Obispo Co., Calif.
Carl shot 2 ♀♀ *subulatus* and then a *Pipistrellus* over the water trough where we shot Sept. 10 last



M. Koford
1948-9

3.

Myotis subulatus

- Aug. 13 2 mi. S + 5 mi. E Shandon, San Luis Obispo Co., Calif.
year. The reproductive tracts were very small.
I saved the skin of one subulatus because
the color seemed dark, almost californicus-like.
- Aug. 23 1 mi. W Isabella, 2500', Kern Co., Calif.
In a mine tunnel with a vertical
opening to the surface part way back,
we caught 1 ♂ at 10:05 pm. At 2:00 am
we got another ♂ in the same tunnel.
½ hr. before this there were no bats in it.
- Jan. 14 Subway Cave, 4300', Old Station, Shasta Co., Calif.
In a chamber containing 55 Corynorhinus
were two m. subulatus ^(1 ♂, 1 ♀) hanging in positions
apparently similar to those occupied by
Corynorhinus. One was in a slight
depression, but still in plain view. The
ceiling where they were hanging was about
9' high. The temperature was 1°C.
- Feb. 2 Shortly after dark, in the same chamber where
we got the two before, we got 1 ♂, the only one
present with 30 or more Corynorhinus. In the
- Feb. 3 morning there was another ♂, again the only
one. Temp. 39°F.

Ramage
M. H. Ford
1946

(1)
Myotis thysanodes - banding
record

Sept. 28 Lucerne, Clear Lake, Lake Co., Calif.

Mar. 29 5:00 pm N

46- 16190 ♂ 9:00 pm N

16205 ♂ 10:45 pm N

16222 ♀ 11:45 pm N

16224 ♀ 12:30 am N

16225 ♀ "

16226 ♀ "

16234 ♀ 2:30 am N

Nov. 16 11:00 pm N; Mar. 8 8:00 pm N;

Mar. 29 5:00 pm S

Mar. 29 5:00 pm S; May 3 10:30 pm S

April 19 12:30, 2:45, 7:00 am S

Aug. 10 10:00 pm N

killed 4:00 pm S

Mar. 29 5:00 pm N; Apr. 19 12:30 am S;

July 14 9:00 pm N Nov. 23, 1948 7:30 S

Oct. 19 16308 ♂ 4:00 pm N

16311 ♂ "

16316 ♀ 4:00 pm S

16317 ♀ "

16318 ♂ "

16320 ♂ "

16322 ♂ "

16331 ♀ 8:00 pm N

16336 ♂ "

16339 ♂ "

16352 ♀ 9:00 pm S

16353 ♂ "

16354 ♂ "

16355 ♂ "

16356 ♀ "

16357 ♀ "

16359 ♀ "

16364 ♀ 11:00 pm N

16366 ♀ 11:00 pm S

16367 ♂ "

16368 ♀ "

Mar. 8 ¹⁴⁷ 8:00, 10:30 pm S;

Mar. 5 '48 8:00 pm N

Mar. 29 11:00 pm S

May 12 '49 12:30 S

Nov. 16 11:00 pm N

Mar. 29 5:00 pm S

Mar. 8 8:00 pm S

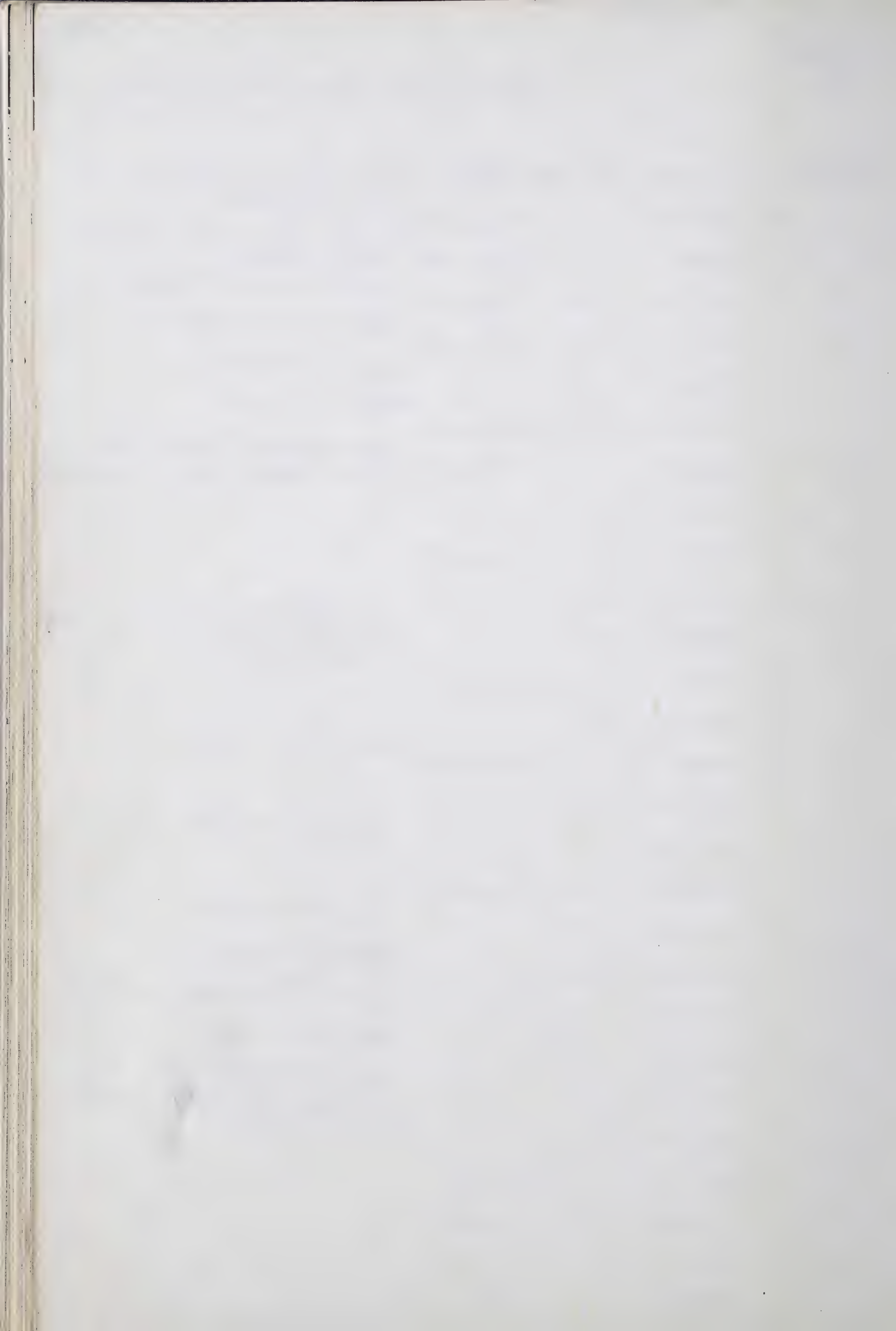
Mar. 8 8:00, 10:30 pm S swollen arm

Mar. 29 5:00 pm S

April 19 10:15 pm S; May 3 10:00 pm N

July 14 ^{leat} 2:00 am N; Sept. 24 9:30 pm N

April 19 10:15 pm S



Ramage
M. H. Ford
1946

(2)

Myotis thysanodes

Oct. 19 Lucerne, Clear Lake, Lake Co., Calif.

	46-16371	♂	11:00pm S	Mar. 8 10:30pm, 1:00am S; Mar. 29 10:00pm N
	16372	♀	"	
	16373	♂	"	
	16374	♀	12:30am N	Apr. 19 10:15pm S
	16375	♂	"	
	16387	♂	12:30am S	Mar. 8 10:30pm N; Aug. 11 1:30am N
	16388	♀	"	Sept. 24 9:30pm N
	16389	♀	"	
	16392	♂	"	Mar. 8 10:30pm N
	16394	♂	2:30am N	Nov. 16 4:30pm S; Mar. 29 8pm S
	16403	♂	2:30am S	
	16404	♀	"	Mar. 8 8:00pm S; Aug. 11 2:30am S lact.
	16406	♂	"	
	16407	♂	"	Mar. 5 '48 8:30pm S
	16414	♂	4:30am N	Mar. 8 10:30pm S
	16415	♂	"	Sept. 24 ¹⁴⁷ 6:00am S (from N?) ls.; Mar. 5 '48 10:00pm N, 1:00am N; May 12 '49 band ch.
Nov. 16	16482	♂	4:30pm S	Mar. 8 ¹⁴⁷ 10:30pm N; May 12 '49 11S band changed
	16492	♂	7:00pm S	
	16512	♂	7:00pm N	Mar. 29 10:00pm N
	16514	♂	"	
	16519	♂	9:00pm S	June 13 1:00am S; Aug. 11 2:30am S
	16521	♂	"	May 3 10:30pm S
	16597	♂	11:00pm S	Nov. 29 6:00pm S; Mar. 29 8:00pm N
	16620	♂	3:00am S	April 20 12:30am S; May 12 '49 11S Nov. 29 6pm Mar. 5 '48 8:30pm S sore-band changed 10:00pm N (147) Aug. 18 '49 10pm S given new band 49-123151
	16621	♂	"	Mar. 8 10:30pm S; Feb. 14, '48 2:30am S - sore band changed
Nov. 29	16639	♂	4:00pm N	
	16649	♂	6:10pm S	

Ramsey
M. Koford
1946-7

Myotis thysanodes

Nov. 29 Zucerne, Lake Co., Calif.

46-16667 ♂ 10:00pm S

March 8 16731 ♀ 3:30pm S

16736 ♂ 3:30pm N

16762 ♀ 10:30pm N

16788 ♂ ~~10:30~~ 11:00pm S

16790 ♀ "

16792 ♂ "

Sept. 24 9:30pm N

July 14 11:00pm S; Aug. 11 2:30am S

March 29 16827 ♀ 5:00pm S

16828 ♀ " 11:00pm S

16829 ♂ "

16831 ♀ " Apr. 15, 1949 8:00am S Pearson

16832 ♀ "

16834 ♀ " July 14 11:00pm N has lactated

16835 ♀ "

16836 ♀ " May 3 10:30pm S

16837 ♀ "

16839 ♀ " Apr. 15, 1949 8:00am S Pearson

16840 ♀ "

16841 ♀ "

16843 ♀ "

16844 ♀ "

Aug. 11 1:30am N lact.

16845 ♀ "

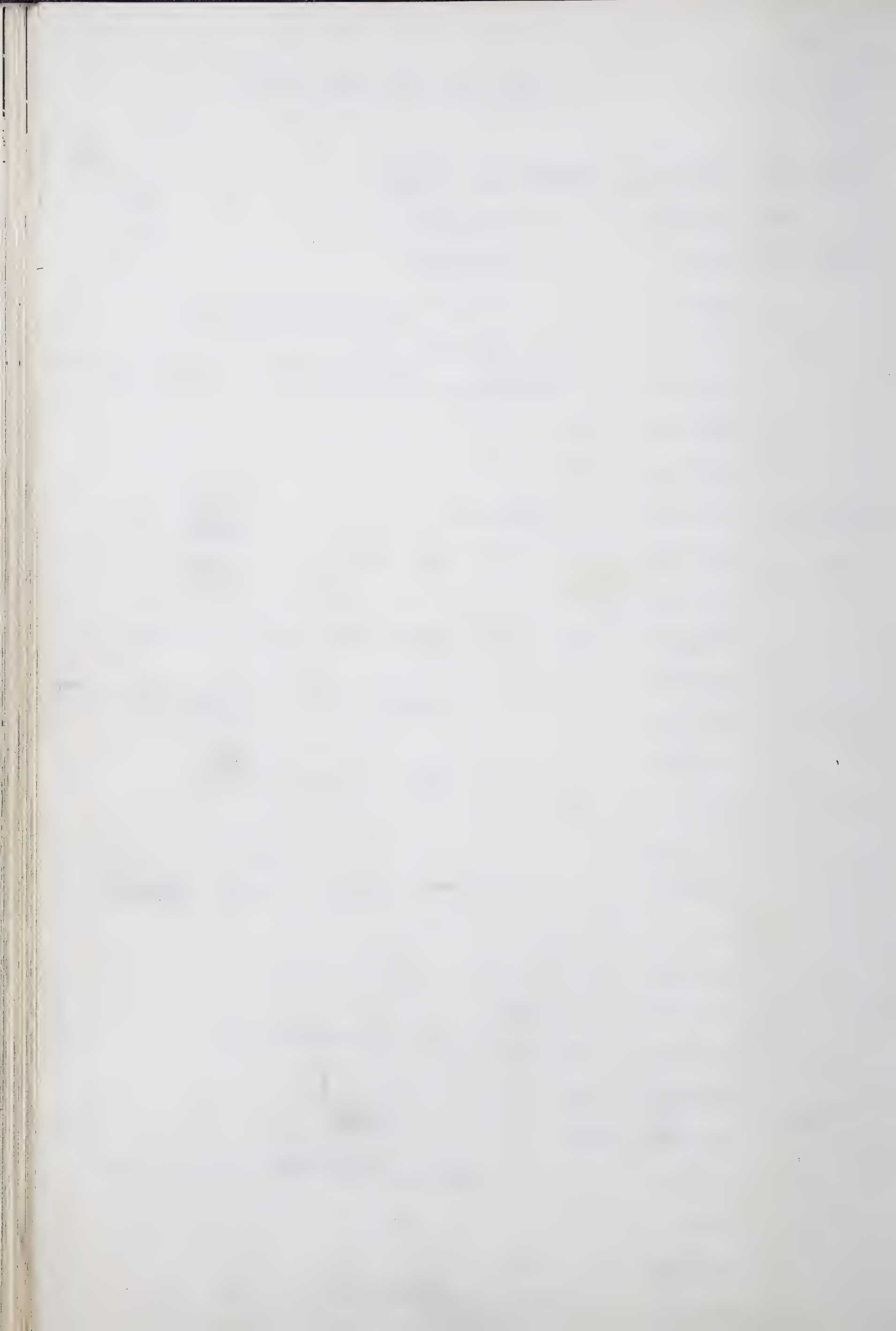
16846 ♂ "

16849 ♀ " hole in wing - healed around edge (March 29) July 14 - dead

16850 ♀ "

16855 ♀ 8:00pm S

16858 ♀ 10:00pm N Sept. 24 9:30pm N



M. Keford
1947

Myotis thysanodes

March 29 Lucerne, Lake Co., Calif.

46- 16861 ♀ 10:00 pm N

16882 ♀ "

16890 ♂ "

16892 →
probably
thysanodes

16891 ♂ 10:00 pm N Apr. 15, 1949 8:00 am S Pearson

16912 ♀ 11:00 pm S + 1:00 am S

16914 ♀ "

16918 ♂ " 7:00, 3:00 am S

16929 ♀ "

16938 ♂ 7:30 am S

(147)
Aug. 11, 2:30 am S; Feb. 14, '48 2:30 am S
son - band changed

April 19 26014 ♂ 9:30 pm N

26022 ♀ "

26038 ♀ 10:15 pm S

26079 ♀ 12:30 am S

April 20 Angwin, Napa Co., Calif.

26175 ♂

July 14 Lucerne.

Mar. 6 '48 1:00 am S

26616 imm ♂ 9:00 pm S

Sept. 24 9:30 pm N

26619 lact ♀ 11:00 pm N

26624 imm ♂ 11:00 pm S

Mar. 5 '48 8:00, 10:00 pm N

26627 lact ♀ 2:00 am N

26628 lact ♀ 2:00 am S

26629 ad ♂ 6:30 am S

Aug. 10 26813 imm ♂ 10:00 pm N + 1:30 am N

26819 imm ♀ 10:30 pm S Sept. 24 9:30 pm N;
Mar. 5 '48 8:30 pm S

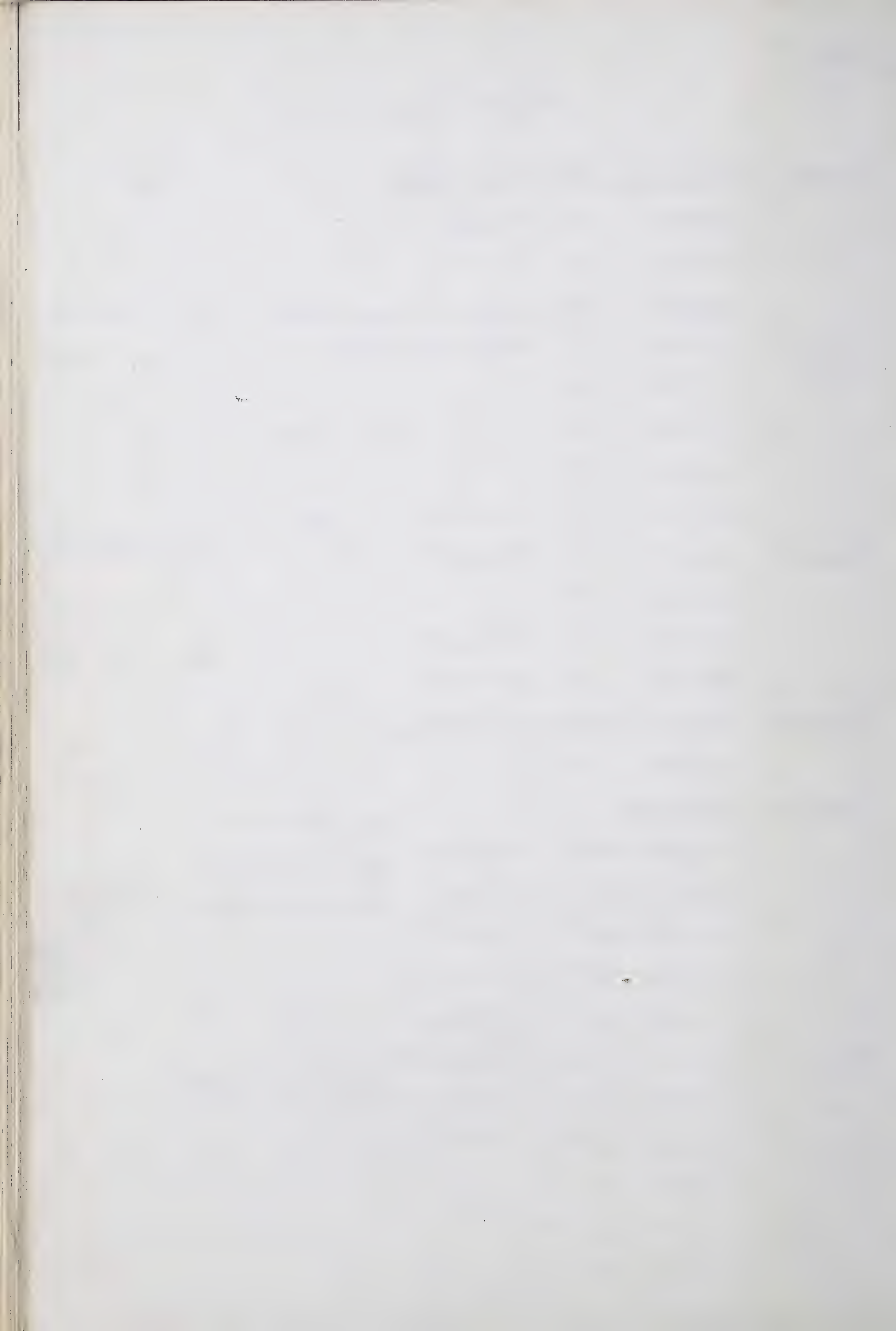
26822 im ♂ 1:30 am N

26823 im ♀ "

26829 im ♂ "

26832 im ♂ "

26834 im ♂ "



M. Koford
1947-9
-50

Myotis thysanodes

Aug. 10 Lucerne, Lake Co., Calif.

46-26835 imm? ♀ 1:30 am N

26836 lact. ♀ "

26840 imm. ♂ "

26841 imm ♂ 2:30 am S

26842 imm ♂ "

Sept. 24 26879 ad ♀ 11:00 pm N

26881 imm ♀ "

26886 ♀ 1:30 am N

26891 imm ♀ "

Sept. 30, 1948 10:30 pm S
kept

Sept. 30, 1948 10:00 pm N
kept

148 Mar. 5 26922 ♂ 8:00 pm N

26923 ♂ 8:30 pm S

26924 ♂ "

May 12 '49 10 pm N band changed

1949 May 12 47-301 ♀ 11:00 pm S

305 ♀ "

Aug. 18 49-123151 ad ♂ (originally banded # 46-16620)

1950 March 11 1.3 mi. SE Inverness, Marin Co.

49-123536 ♂

M.C. Ramage
1945

Myotis thysanodes

March 18 1/2 mi. S Angwin, Napa Co., Calif.

In a stone winery we found one, cold and torpid hanging on a beam on the ceiling. In the same building we got a Corynorhinus.

April 1 We caught 4^(♀♀) out of a cluster of about 7 hanging on a beam, this time in the wooden building. In the evening we returned and shot 3 more.

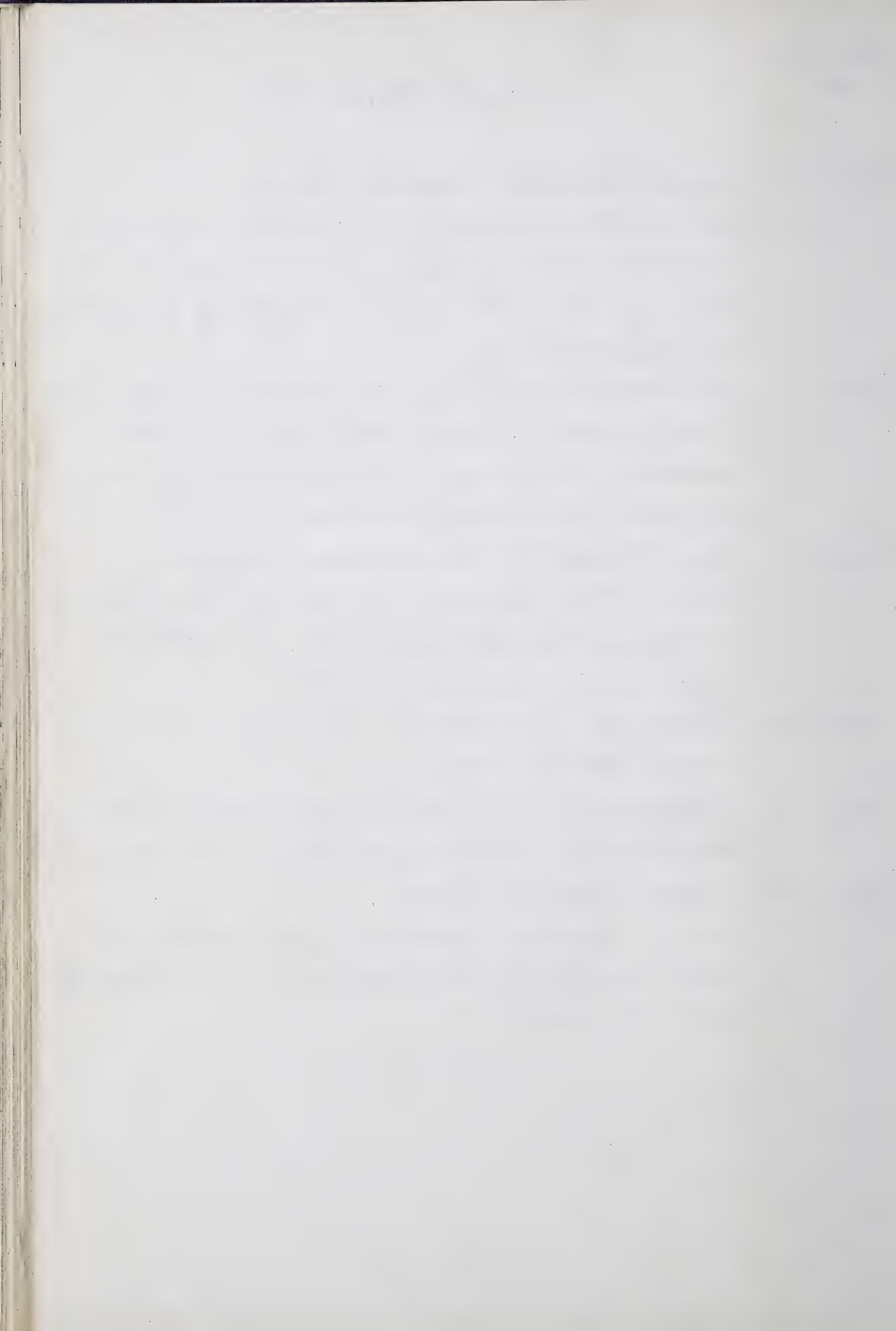
July 8 On the roof of the wooden building under the tin roof of one of the cupolas we found a colony of ♀♀. We got 30, but some more escaped.

Aug. 24 Dr. Benson found a ♀ hanging on a beam in the lower story.

May 1 Silver Cr., 900', 7 1/2 mi. ESE Panoche, San Benito Co.
Walt shot a M. thysanodes in the evening.

June 15 Lebec, Kern Co., Calif.

In a dugout garbage pit where we were trapping bats we got 3 M. thysanodes at 3:00 am.



M. C. Ramage
1945

2.

Myotis thysanodes

Sept. 9

3 mi. E Pescadero, San Mateo Co., Calif.

Dr. Benson found 1 ♂ in the attic of an abandoned house on top of a beam in the space between two of the supporting boards of the roof. There were many such spaces, a few of them closed at one end where the boards did not meet evenly on the two sides of the beam. It was in such closed spaces that we got this bat and the other two we found there - 1 ♀ Myotis californicus and 1 ♂ yumanensis.

Forks of Waddell Creek, 100 ft., Santa Cruz Co., Calif.

Pounding on the shake roof of a cabin brought out 1 Myotis californicus ♀, 2 evotis ♂, 1 thysanodes ♂, + 1 yumanensis, which Mrs. Benson knocked down as they flew about inside the cabin.

Sept. 14

1 1/4 mi. S New Idria, 3750 ft., San Benito Co., Calif.

After dark, Dr. Benson shot one hanging near the ceiling of an old condenser - a tall, partitioned brick building with a window to the outside at the top and bottom of each section, and windows between the sections.

Sept. 21

1 mi. S Tahoe, Lake Tahoe, Placer Co., Calif. (W. W. Mein's)

On W. W. Mein's boathouse there had been many bats along the ridgepole, but all that was there now were 6 or 8 mummies - all M. thysanodes.



C. Ramage
1945

3.

Myotis thysanodes

Sept. 21

1 mi. S Tahoe, Lake Tahoe, Placer Co., Calif. (W. W. Meins)
The boathouse is out over the water and is open at one end. The bat droppings were on the attic floor.

Sept. 23

Lucerne, Clear Lake, Lake Co., Calif.

Just north of town, on the east side of the highway, are two mine tunnels about 100' long. We reached there just at dusk, put a net over the entrance to one, and caught what bats we could inside with hand nets and flashlights. The bats would cling to the ceiling of the cave and fly readily at our approach. The tunnel yielded ¹⁴~~15~~ *M. lucifugus* (1♂, ¹³~~14~~ ♀♀), 4 *M. thysanodes* (♀♀), 5 *M. yumanensis* (2♂♂, 3♀♀), and 2 *Corynorhinus* (♂♂). There were no bats in the other tunnel by the time we got to it, some time after dark.

S. B. Benson
9454-7

Dec. 2

Lucerne, Clear Lake, Lake Co., Calif.

See journal for this date (8 Dec. 1)

1/2 mi. S Angwin, Napa Co., Calif.

Dr. Benson got 1 ♀ clinging to a beam in the lower story of the wooden building next to the stone one. There were no bats under the corrugated metal roof where we got the good series of ♀♀ on July 8. It was getting dark and at least one bat was flying outside the building.

I kept this
one alive.



M. C. Ramag
1946

4.

Myotis thysanodes

July 9

1/2 mi. S Angwin, Napa Co., Calif.

7:00 p.m. In the wooden building there was one hanging on a beam downstairs. I could find none upstairs or in the roof (see July 8, 1945). In the stone building I saw 2 hanging on beams downstairs. Upstairs there were at least 4 bats flying, but I was only able to identify one for certain as Myotis thysanodes as the others did not alight. All these identifications were sight identifications with a flashlight from the floor as I had no net or gun and was unable to get any of the bats in hand.

July 14

At 2:00 p.m. a search of both buildings revealed nothing but one Corynorhinus.

July 30

1 mi S Tahoe, Lake Tahoe, Placer Co., Calif. (Mr. Meins)

We looked in the boathouse where we found the evidence of Myotis thysanodes last Sept. 21, but found no bats, nor any indication of their having been there this year. I talked to two small boys who said there had been hundreds of bats in the roof of the boathouse last summer. I showed them some live Myotis yumanensis, and their immediate reaction was that their bats had been bigger.



M. C. Ramo
1946

5.

Myotis thysanodes

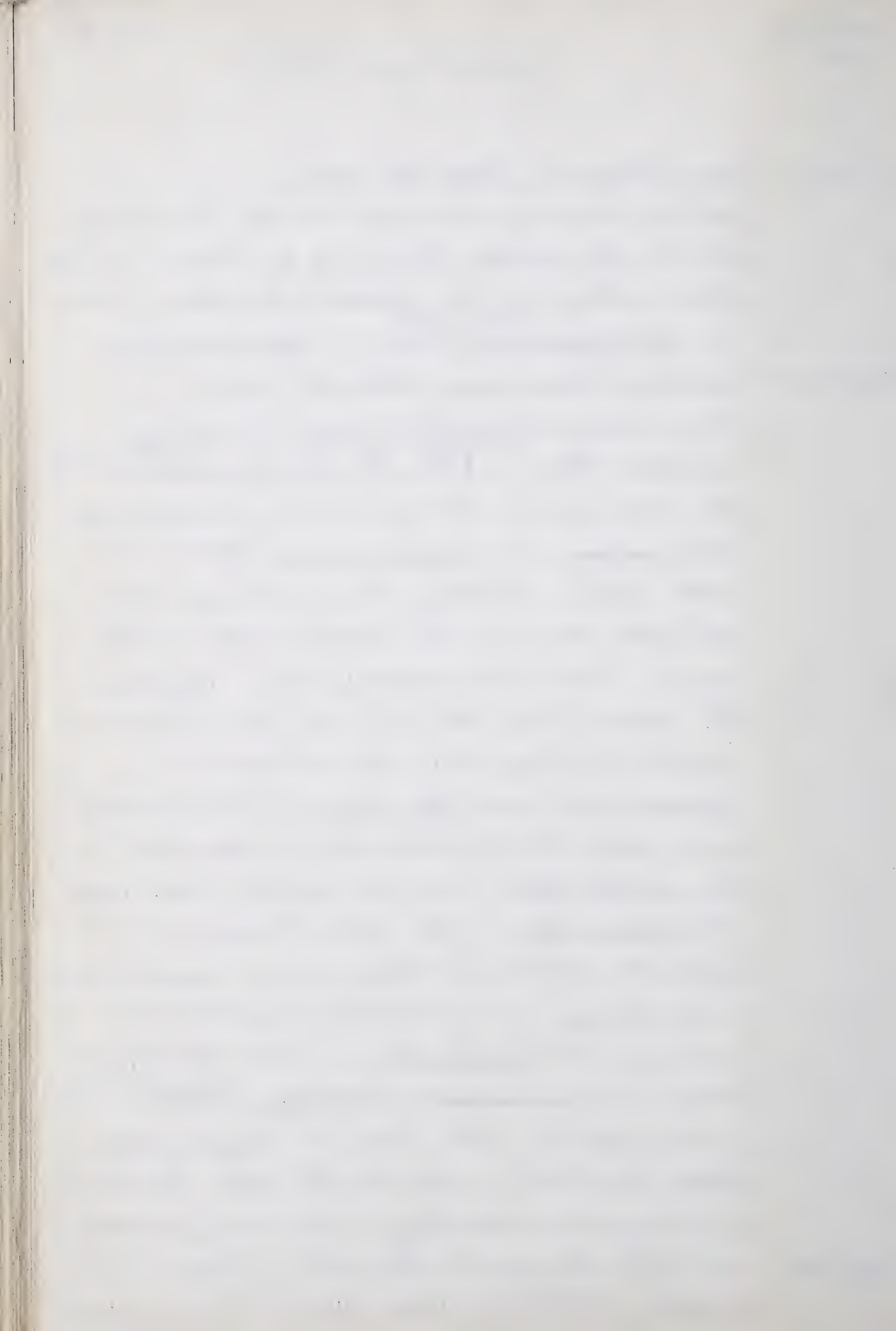
Aug. 7 1/2 mi. S Angwin, Napa Co., Calif.

Just at dusk I searched the two buildings at the old winery. Hanging on beams in the lower story of the wooden building was 1 ♂ M. thysanodes^(collected) and 1 Corynorhinus.

Sept. 28 Lucerne, Clear Lake, Lake Co., Calif.

We visited again the mine tunnels. ^{all bats captured were immediately banded & released.} visited Dec. 1, 1945. No M. thysanodes were seen until 9:00 p.m. (M. yumanensis, lucifugus, & Corynorhinus at 5:30 and 7:30). At this time (temp. 68°F. outside, 64°F. in the back of the north cave) there were many more Myotis in the caves than at either of the previous visits (5:30 & 7:30) - 12 unbanded yumanensis and lucifugus in the south cave and 31 (29 unbanded, 2 banded) in the north cave. In the north cave was 1 ♂ thysanodes. At 10:45 (temp. 67°F. outside, 64°F. in) there were 11 yumanensis & lucifugus (6 unbanded, 5 banded) & 1 ♂ unbanded thysanodes in the north cave and 14 yumanensis & lucifugus (~~12~~ 2 banded) in the south. At 11:45 1 ♀ thysanodes was banded in the north cave. Several yumanensis & lucifugus were also present, mostly banded. At 12:30 (temp. 63°F. outside, 64°F. in) there were 6 y. & l. and

Sept. 29



M.C. Ramage
1946

6.

Myotis thysanodes

Sept. 29

Lucerne, Clear Lake, Lake Co., Calif.

3 ♀♀ thysanodes — all unbanded — in the north cave, and 4 yumanensis & lucifugus (2 banded) in the south. At 2:30 (temp. 61° F outside, 64° in) there were 12 yumanensis & lucifugus (1 banded) in the north cave and 4 y. & l. and 1 ♀ thysanodes — all unbanded — in the south cave. At 4:30 there were no thysanodes. — 7 y. & l. in the north cave, 2 in the south, all unbanded, and after daylight there were no bats.

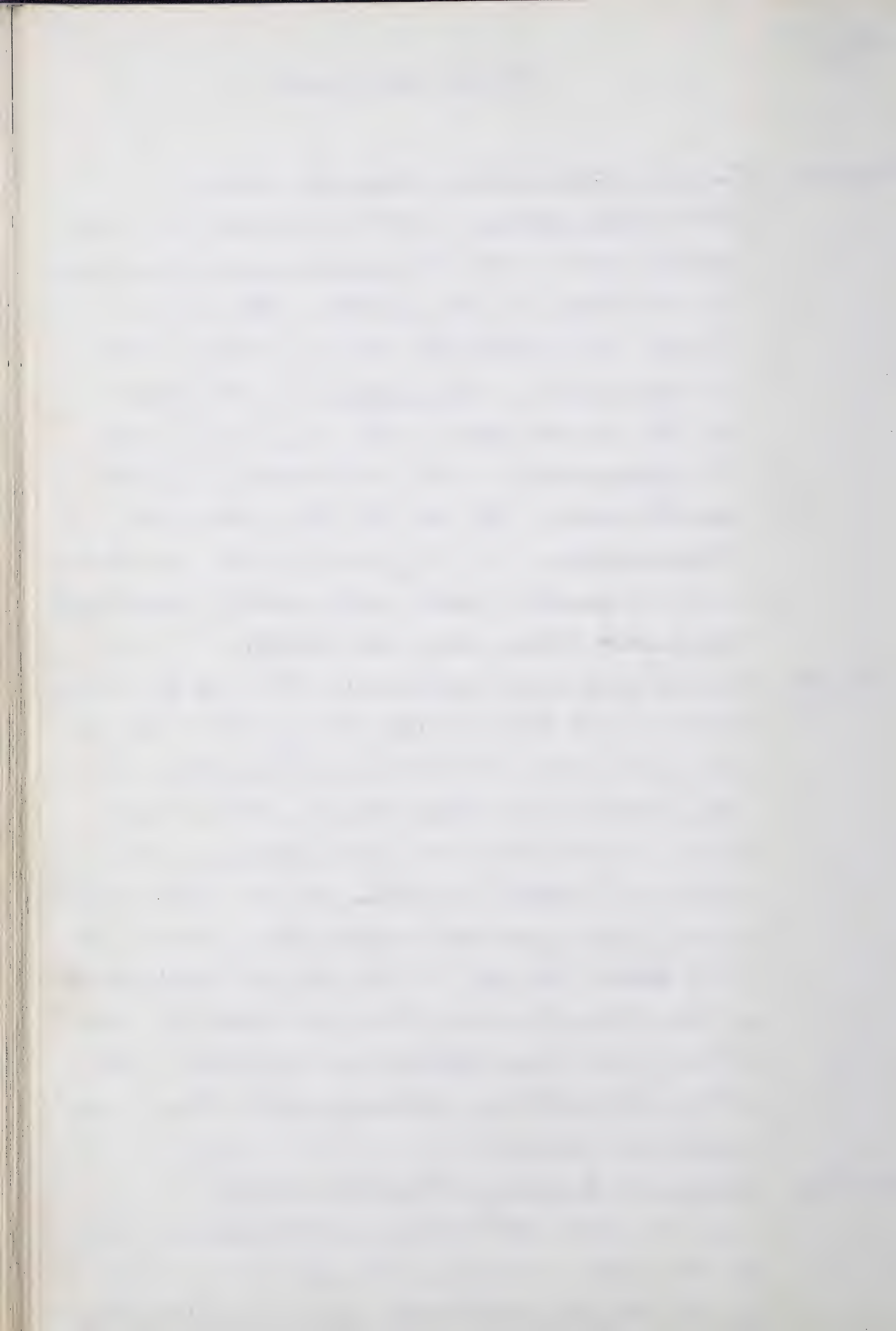
Oct. 19
-20

We caught and released 5 ♂♂, 2 ♀♀ at 4:00 p.m., 2 ♂♂, 1 ♀ at 8:00, 3 ♂♂, 4 ♀♀ at 9:00, 3 ♂♂, 4 ♀♀ at 11:00, 3 ♂♂, 4 ♀♀ at 12:30^{a.m.} (one of these ♀♀ was saved to be kept alive), 4 ♂♂, 1 ♀ at 2:30, & 2 ♂♂ at 4:30. This species was taken in both tunnels, and none of these bats was found more than once. At 4:00 ~~p.m.~~^{p.m.} we got 1 ♀ which we had banded in the other tunnel at 12:30 Sept. 28, but this bat was killed in capture. For other bats taken along with these, see table in journal.

Oct. 20

1/2 mi. S Angwin, Napa Co., Calif.

One ♀ was collected on the lower floor of the stone winery, hanging on a beam & quite torpid, although it was just at dusk.



M.C. Ramage
1946-7

Myotis thysanodes

7.

Nov. 16

Lucerne, Clear Lake, Lake Co., Calif.

In a night's banding operations we got 2 at 4:30, 3 at 7:00, 2 at 9:00, 3 at 11:00,

Nov. 17

and 2 at 3:00, all males. Most of these were in the south tunnel which is not the one in which we got the most M. yumanensis. (See table in journal.)

Nov. 16

One of those taken at 4:30 in the south tunnel was a return, banded at 2:30 a.m. on Oct. 20 in the north tunnel. Both of those taken at 11:00 in the north tunnel were returns, both taken before in the north tunnel, one at 10:45 Sept. 28, the other at 8:00 Oct. 19.

Nov. 29

Lucerne, Clear Lake, Lake Co., Calif.

During banding operations (see journal), we took one unbanded ♂ at 4:00 p.m. in the north tunnel. At 6:10 there was one unbanded ♂ and one banded ♂ in the south tunnel, the banded one being a return from Nov. 17, 3:00 a.m. in the south tunnel. At 10:00 there was one unbanded ♂ in the south tunnel. The rest of the night and all the next night there were none.

Nov. 30

March 8

During the night's banding operations we took ~~19~~¹⁷ different individuals (see journal) as follows:

new - 3 ♂♂, 3 ♀♀

(next page)
returns - 10 ♂♂, 1 ♀



m. Koford
1947

8.

Myotis thysanodes

March 8 Lucerne, Clear Lake, Lake Co., Calif.

returns:

8:00 p.m.

North

1♂ Sept. 28 10:45 pm N, Nov. 16 11:00 pm N

South

1♂ Oct. 19 4:00 pm S

2♀♀ " 9:00 pm S

1♀ Oct. 20 2:30 am S

10:30 pm

North

2♀♀ Oct. 20 12:30 am S

1♂ Nov. 16 7:00 pm S

South

(2♀♀) Oct. 19 4:00 pm S, Mar 8 8:00 pm S

1♂ " 11:00 pm S

1♂ Oct. 20 4:30 am N

1♂ Nov. 16 3:00 am S

March 9 1:00 am

South

(1♂) Oct. 19 11:00 pm S, Mar 8 10:30 pm S

March 29-30 During the night's banding operations we took
39 different individuals (see table in journal)

new: 4♂♂, 24♀♀

returns: 9♂♂, 2♀♀

5:00 pm - North

♂ Sept. 28 9:00 pm N

♂ Oct. 19 4:00 pm N



M. Koford
1947

Myotis thysanodes

9.

March 29-30 Lucerne, Clear Lake, Lake Co., Calif.

5:00 pm - South (new 1♂, 17♀♀)

♂ Sept. 28 10:45 pm N, Nov. 16 11:00 pm N,
March 8 8:00 pm N

♀ Sept. 28 11:45 pm N

♂ Oct. 19 9:00 pm S

♀ " "

8:00 pm - North

♂ Nov. 16 11:00 pm S

8:00 pm - South (new 1♀)

♂ Oct. 19 2:30 am N, Nov. 16 4:30 pm S

10:00 pm - North (new 1♂, 3♀♀)

♂ Oct. 19 11:00 pm S, Mar 8 10:30 pm, 1:00 am S

♂ Nov. 16 7:00 pm N

11:00 pm - South (new 1♂, 3♀♀)

♂ Oct. 19 4:00 pm S

♀ Mar 29 5:00 pm S

1:00 am S

♀ Mar 29 11:00 pm S

♂ " "

3:00 am S

♂ Mar 29 11:00 pm S, 1:00 am S
(7:30 am S new 1♂)

April 19-20 During the night's banding, we took 10
different individuals. (see journal)

new: 1♂, 3♀♀

returns: 2♂♂, 4♀♀

(9:30 pm N new 1♂, 1♀)

10:15 pm S (new 1♀)

2♀♀ Oct. 19 9:00 pm S and 1♀ Oct. 20 12:30 am N



M. Koford
1947

Myotis thysanodes

April 19-20 Lucerne, Clear Lake, Lake Co., Calif.

12:30 am S (new 1 ♀)

1 ♀ Sept. 29 12:30 am N

1 ♂ Oct. 19 4:00 pm N, Mar 29 5:00 pm N

1 ♂ Nov. 16 11:00 pm S, Mar 29 8:00 pm N

2:45 am S

1 ♀ Sept. 29 12:30 am N, Apr. 20 12:30 am S

7:00 am S

1 ♀ Sept. 29 12:30 am N, Apr 20 12:30, 2:45 am S

May 3-4

During the night's banding (see journal) we got 4, all banded previously.

10:00 pm N

♀ Oct. 19 9:00 pm S, 10:15 pm S

10:30 pm S

♀ Sept. 28 11:45 pm N, Mar. 29 5:00 pm S

♂ Nov. 16 9:00 pm S

♀ Mar. 29 5:00 pm S

June 13

Lucerne, Lake Co., Calif.

We got only one during a night spent at the caves, a ♂ at 1:00 am, south cave, banded Nov. 16 at 9:00 pm, north cave.

July 14

A night's banding yielded the following:

9:00 pm 18°C. out :

N

1 ♂, caught Oct. 19 4:00 pm N, Mar. 29 5:00 pm N,

Apr. 20 12:30 am S

S

1 ♂ immature, unbanded

11:00 16°C. out :



M. Koford
1947

Myotis thysanodes

11.

July 14-15 Lucerne, Lake Co., Calif.

N

1 ♀, unbanded, lactating or recently lactating

1 ♀, caught Mar. 29 5:00 pm S " " "

S

1 ♂, unbanded, immature

1 ♂, adult, caught Mar. 8 10:30 pm S

2:00 am, 14°C. out :

N

1 ♀, unbanded, lactating or recently so

1 ♀ caught Oct. 19 9:00 pm S, Apr. 19 10:15 pm S,

May 3 10:00 pm N

lactating or recently so

S

1 ♀ " " " " unbanded

6:30 am 15°C. out 18°C. in (N)

S

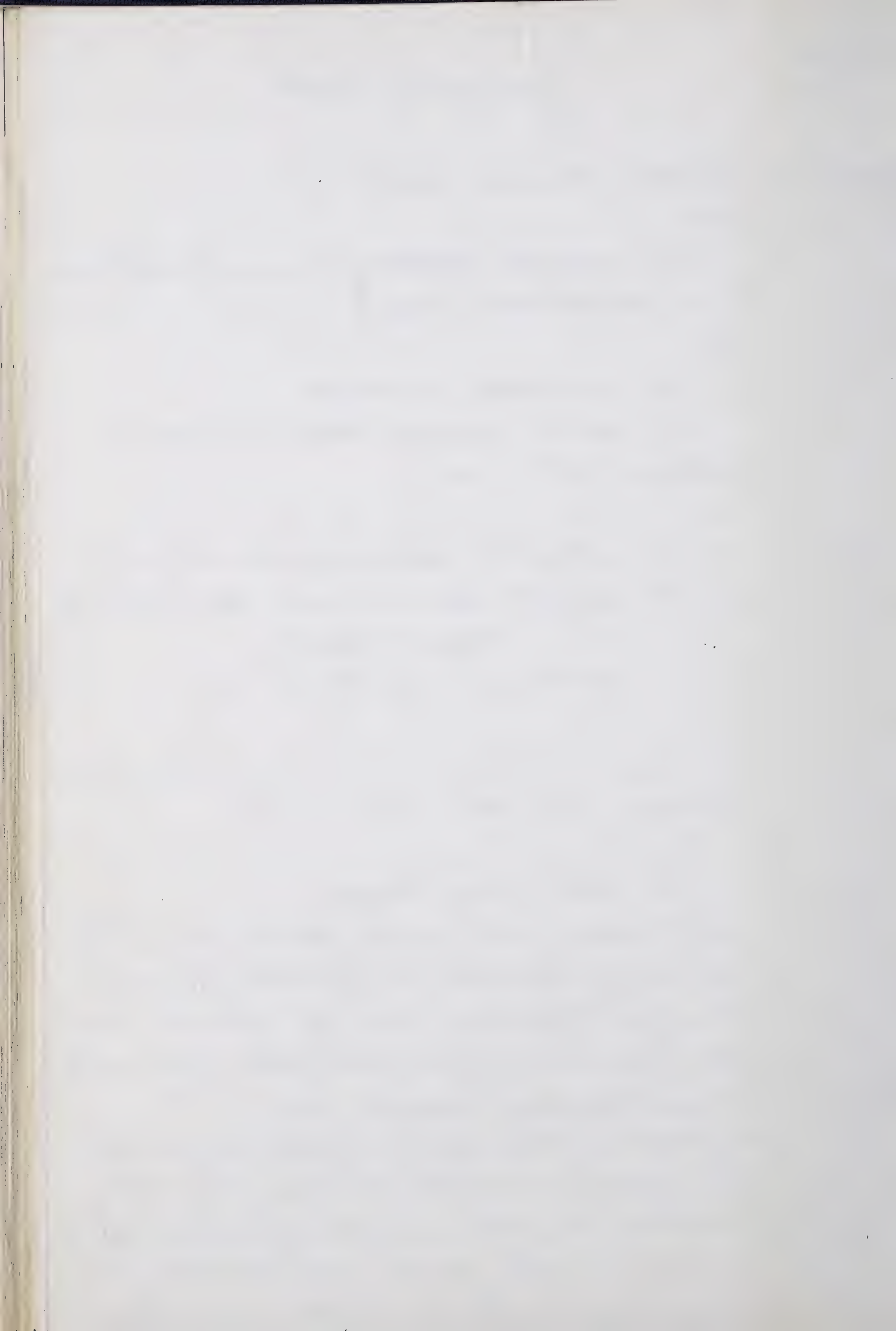
1 ♂ adult, very torpid

At the end of the right fork of the south tunnel I found the skeleton of a ♀ banded Mar. 29 5:00 pm S which had at that time a healed hole in its wing.

Aug. 10

Lucerne, Clear Lake, Lake Co., Calif.

A night's banding gave the following results. The adult ♀♀ were mostly lactating or recently so. Immatures were still easily distinguished. The large number in the north cave at 1:30 were many of them hanging near the entrance (before the rise beyond



M. H. Ford
1947

12

Myotis thysanodes

Aug. 10

Lucerne, Clear Lake, Lake Co., Calif.

which the cave is warmer) and were very loathe to fly.

		^{♂♂} im. ad.		^{♀♀} im. ad.	
7:45	out 23°C				
10:00	out 21°C. N -	1 new			1 return
10:30	S -			1 new	
1:30	out 19°C N -	5 new 1 return	1 return	2 new	1 new 1 return
2:30	S -	2 new	3 return		1 return
4:00	out 16°C.				
5:00	out 15°C.				

Aug. 11

Returns:

10:00 N

♂ ad. Sept. 29 12:30 a.m. N

1:30 N

♂ im Aug. 10 10:00 p.m. N

♂ ad Oct. 20 12:30 a.m. S, Mar. 8 10:30 p.m. N

♀ ad Mar. 29 5:00 p.m. S

2:30 S

♂ ad Nov. 16 9:00 p.m. S, June 13 1:00 a.m. S

♂ ad Mar. 8 10:30 p.m. S, July 14 11:00 p.m. S

♂ ad Apr. 19 9:30 p.m. N

♀ ad Oct. 20 2:30 a.m. S, Mar. 8 8:00 p.m. S

* for 9:30 see next page

Sept. 24

1 ♂ banded & new ♀♀ at ~~9:30~~ 11:00 and

2 more at 1:30, all in the north cave.

at 6:00 a.m. (Sept. 25) ^{also} ~~1 banded~~ ^{got} 1 ~~new~~ ^{return} ♂ in the south cave. This may have come from the north cave as I had just chased a bat out of there. Its testes were very large.



n. Koford
1947-8

13

myotis thysanodes

Sept. 24 Zucerne, Clear Lake, Lake Co., Calif.

The number was 46-16415. *at 9:30 there were 6 returns (♀♀) in the north cave:

46-16357, 16388, 16762, 16858, 26619, 26819.

Feb. 14 at 2:30 am in the south cave we took 2 ♂♂ returns: 46-16621, 26014. Both had sore wings and the bands were transferred to the left wing. (See journal and banding record.)

Feb. 28 2½ mi. ENE Pescadero, San Mateo Co., Calif.

In an abandoned house I found 1 ♂ between cardboard and the wooden wall. at the other end of the room the walls and cardboard were quite damp. The bat was very torpid.

1½ mi. E Pescadero, San Mateo Co., Calif.

Carl found 1 ♂ under a bridge in a crack about 1½" wide, open at the bottom, 10' from the ground.

Mar. 5 Zucerne, Lake Co., Calif.

We banded 3 new ♂♂ and got 6 ♂♂ + 1 ♀ returns.

(See journal & banding record.) Returns:

8:10 N 46-16318, 26624 (also at 10:00 N)

8:30 S 16407, 16620, 26819 (also at 10:00 N)

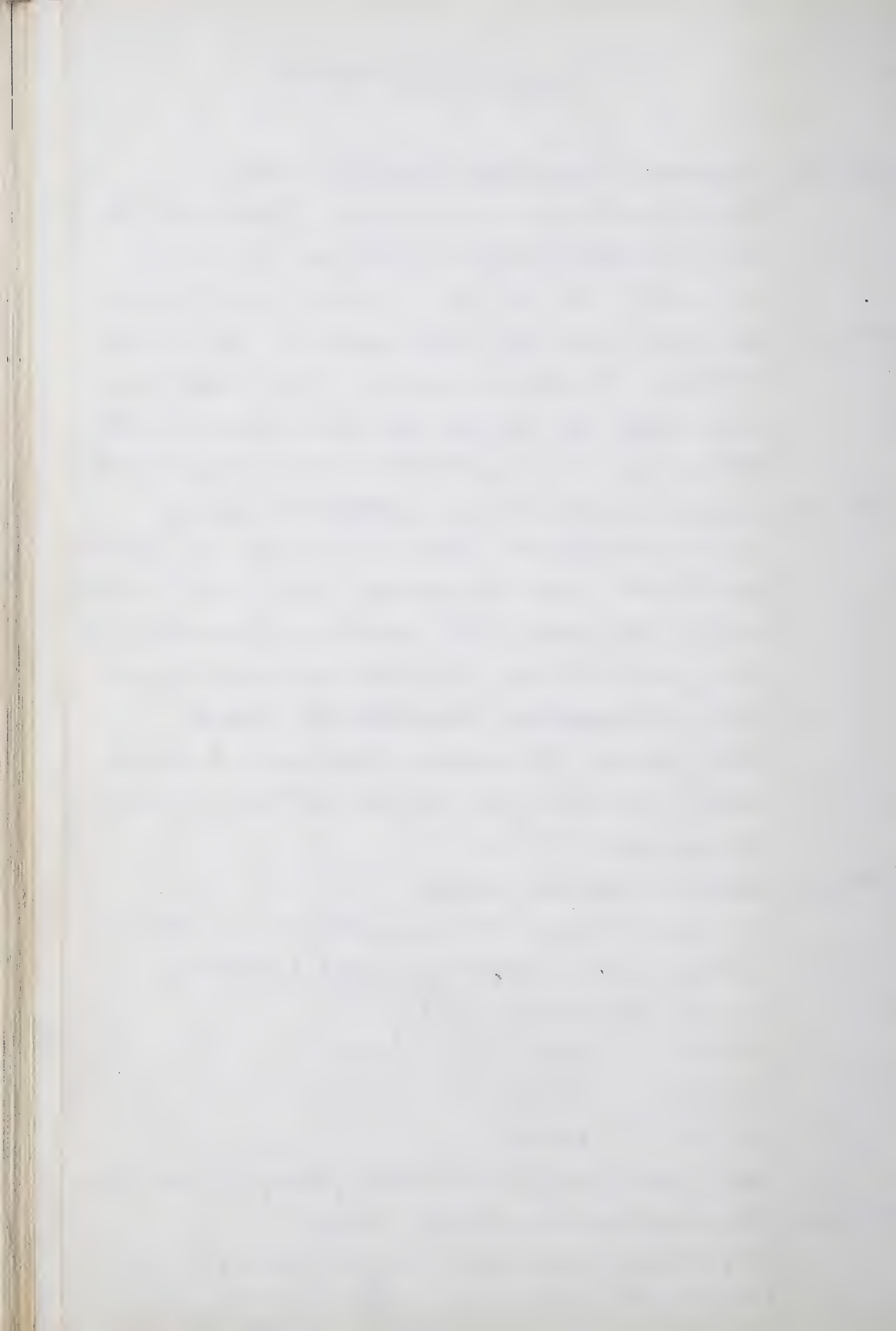
10:00 N 16415 (also at 1:00 N)

1:00 S 26616

The ♀ and two of the ♂♂ were young of last year.

March 25 Calaveras Dam, Alameda Co., Calif.

We got 1 ♀ at 10:00 pm in a mine tunnel. The tunnel goes straight back about 50'; then



M. Koford
1948

Myotis thysanodes

March 25 Calaveras Dam, Alameda Co., Calif.

turns at a right angle and goes another 50'.
The bat was flying when first seen, beyond
the bend.

April 18 $\frac{3}{8}$ mi. NE jct. Jawbone Cr. & Tuolumne R., 3000', $13\frac{1}{4}$ mi. E + $3\frac{1}{2}$ mi. N Groveland,
Tuolumne Co., Calif. Carl collected 2 ♂♂ + 22 ♀♀ in a
mine tunnel, a straight horizontal shaft 150'
long, 7' high, 6' wide. The outer $\frac{2}{3}$ was wet
and contained deer tracks. The back $\frac{1}{3}$ was
dry. In the back $\frac{1}{3}$ he found 2 ♂♂ + 1 ♀ hanging
singly, 3 ♀♀ together, and, about 8' from the end,
a ^{circular} cluster of 100 to 150 "about 14" in diameter.
The 18 bats which he picked at random from
this cluster were all ♀♀. All bats were on the
ceiling, all hanging by the hind feet except
for one of the single individuals (the ♀?)
which was in a crack on the ceiling. When first
found, ^(about 3:00 pm) the large cluster appeared undisturbed.
When he returned 10 minutes later some were
becoming active and a few flew.

Aug. 24 1 mi. N Isabella, 2500', Kern Co., Calif.

Carl got 1 ♂ *thysanodes* (flying) and
1 ♂ *yumanensis* (torpid) at 4:30 am in
a mine tunnel with water in the bottom.

Sept. 30 Zucerne, Clear Lake, Lake Co., Calif. (last visit of night)
at 10:00 pm, north cave, we got 1 ♀, and at 10:30,
south cave, 1 ♀, along with numerous *M. yumanensis*
in both. Both were banded Sept. 24 1947 one as an
immature. Dr. Pearson kept both. - no sperm yet.

46-881
26886
26886

M. Koford
1948-9

Myotis thysanodes

Nov. 23 Lucerne, Clear Lake, Lake Co., Calif.

at 7:30 pm there was a banded ♂ in the south tunnel (taken Oct. 19, 1946, ⁴⁶⁻¹⁶³⁰⁸ & Mar. 29, Apr. 19, J. 14, 1947). at 9:20 there was an unbanded ♀ in the south tunnel, which we kept.

April 15 Pearson found a group by day in the south tunnel. 3 were banded 46-16831, 16839, 16891. Two were ♀♀ banded at 5:00 pm Mar. 29, 1947 in the south tunnel (when we found a large cluster) and one a ♂ banded at 10:00 pm the same night in the north tunnel.

May 12 We got 1 unbanded ♀ at 11:00 in the south tunnel, 4 banded ♂♂ (1 at 10:00 N, 3 at 11:00 S), and 3 banded ♀♀ (12:30 S).

♂♂ 16415 Oct 19 '46, Sept. 24 '47, Mar. 5 '48.

16492 Nov. 16 '46, Mar. 8 '47.

16597 Nov. 16 '46, Nov. 29 '46, Mar. 29 '47, Apr. 20 '47.

26924 Mar. 5 '48.

♀♀ ~~16194~~

16331 Oct. 19 '46.

~~16859~~

numbers apparently
misread - these
numbers are yumanensis

See banding record for complete data.

Aug. 2 Angwin, Napa Co.

At the old winery was a colony of ♀♀ and immatures in the roof of the wooden barn where we found a colony once before. This time they were in the roof of the dormer on the side of the barn toward the



M. Koford
1949
-50

16

Myotis thysanodes

Aug. 2

Angwin, Napa Co., Calif.

road. They were between the boards and corrugated iron roof, just as before. Pearson found some single individuals hanging on the beams of the lower floor of the stone building. (see page 7 - Kutzner's paper)

Aug. 18

Lucerne, Lake Co.

At 10:00 pm there was one adult ♂ in the south tunnel, in the straight part with the water in the bottom. Band # 46-16620, banded Nov. 16, 1946 at 3:00 am in the south tunnel, taken Nov. 29¹⁴⁶ 6:00 pm and March 5, 1948 at 8:30 pm, both south tunnel, and Mar. 5 at 10:00 pm north tunnel. We put on a new band, # 49-123151.

Oct. 19

Cassel, 3100', Shasta Co., Calif.

In a room of the creamery where Pearsons have gotten many night-roosting *Myotis lucifugus* &/or *yumanensis*, we found a torpid ♂ *thysanodes* and torpid ♂ *yumanensis* clinging together in the open in the middle of the day.

Nov. 23

3 mi. N Rio Nido, 600', Sonoma Co., Calif.

Anita found 1 ♂ behind paper in the barn of an unoccupied house.

Feb. 16

Aetna Mine, Napa Co.

In the "Danger Keep Out" tunnel was one torpid ♂ hanging in the open at midday.



M. Koford
1950

Myotis thysonodes

March 11 1.3 mi. SE Inverness, Marin Co.

In Golden's barn, behind the metal sheet on the wall at the stair landing was 1 ♂ along with M. californicus and yumanensis. We banded it.

M. Koford
1949

Myotis velifer

1

Calif.

April 10 2 mi. S Vidal (San Bernardino Co.), Riverside Mts, Riverside Co.

In the late afternoon we found M. velifer in two tunnels. In one at the level of the canyon floor we found 2 (♂, ♀) in the same crack. In another up the hill from this we found 9: 2 ♂♂ & 1 ♀ in one hole; 2 ♀♀ & 1 ♂ in another; 3 ♀♀ which had started to fly before we found them. At least 4 more Myotis were flying but got out before we could catch them. At 11:00 pm Carl returned and found 2 in a hole in the lower tunnel (1 ♂, 1 escaped) and saw another flying. In the upper tunnel he caught 1 ♂ flying. There were now many Macrotus in the tunnels. None of the M. velifer appeared pregnant.

C

n. Koford
1947

(1)

myotis volans - banding record

Sept. 24 Zucorro, Lake Co., Calif.

46-26872	♀	9:30 pm N	identification?
26877	♀	11:00 pm, 1:30, 3:30, 6:00 am N	
26883	♂	11:30 pm S	Mar. 5 '48 8:30 pm S

1. C. Ramage
1945

Myotis volans

June 2

Old Fort Tejon, Kern Co., Calif.

A preliminary search of the fort did not disclose many bat droppings on the ground, and the roof, being of corrugated sheet iron, did not seem to offer any very good place for bats since it was very hot. However, we located a small colony of Tadarida and Eptesicus out under the eave in one corner between the metal roofing and the 12" planks which supported it. This led us to make a more careful search of the roof on the inside, this time from the beams up close to the roof. From here it could quickly be determined that there were hundreds of bats throughout the building between the boards and the metal. They could be heard moving about and squeaking, and pounding on the planks brought them out and started them flying about. We collected 20, by shooting them or grabbing them as they came out. On our way out we found 3 in the crack on top of a beam in the ceiling of the basement above a pile of droppings on the floor.

(June 3 see next page)
June 4

This time it was raining when we came



Ramage
1945

2,

Myotis volans

June 4

Old Fort Tejon, Kern Co., Calif.

to this building, and therefore cooler. The bats were at first a little less active and easier to catch as they emerged from their cracks. After firing a few shots into places where there were large numbers of them, we had so many flying about us that we could just stay in one spot and grab them as they lit or even out of the air. Twice we were able to get a whole handfull at a time as large clusters formed on the end walls. After collecting about 80 we finally restrained ourselves and resisted the temptation to pluck a bat as it sat on a beam or stuck its head out of a crack in front of us.

Hebee, Kern Co., Calif.

Back at the hotel this evening we caught Myotis volans along with Myotis yumanensis by trapping them inside sheds where many kinds of bats apparently hung up ~~for~~ during the night, and then going inside with flashlights and catching them. We caught 3 at 11:00 PM and 2 at 12:00.

June 3

1 mi. NW Old Fort Tejon, Kern Co., Calif.

One male was shot along with a number



M.C. Ramage
1945-46

3.

Myotis volans

June 3

1 mi. NW Old Fort Tejon, Kern Co., Calif.

of Myotis yumanensis in an old power house, also with a corrugated iron roof. This was the only ♂ taken, all the bats in Fort Tejon being breeding ♀'s.

(June 4
see preceding
page)

5 mi. S Monte Rio, Sonoma Co., Calif.

Aug. 13 '45

Dr. Benson shot one in an abandoned railroad tunnel which probably contained more of them, and Walt shot one in the evening over a pool in the creek where a number of other bats, most of them probably this species, were seen flying.

Oct. 20 '46

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

Dr. Benson collected 10 under wall paper in an abandoned house where we also got 2 M. californicus, 17 M. yumanensis, & 4 Corynorhinus, and where on Dec. 2, 1945 we got 5 M. yumanensis, 1 Antrozous, 2 Eptesicus, & 1 Corynorhinus. This bat escaped from the sack in which we were carrying it. After 14 M. yumanensis and 4 Corynorhinus had been released outside, most of them to fly back in, Carl and Emma returned to the room where the volans was found, and caught a bat which was flying about the room. This bat proved to be -
a Myotis volans!

M. Koford
1947-8

Myotis volans

4.

April 19

Lucerne, Clear Lake, Lake Co., Calif.

(see journal)
At 9:30 pm in the north tunnel we got one which we intended to save as a specimen but which escaped thru a hole in the sack.

June 17

1/2 mi. W Parkfield, Monterey Co., Calif.

In the house where San McMillan got a *Myotis californicus* Feb. 17 he found a ♂ *M. volans* in exactly the same spot, under the wallpaper above a door. It flew out a window and then back into another room where Carl caught it in the net.

Sept. 24

Lucerne, Lake Co., Calif.

We took 1 ♀ in the north cave at 9:30,
2 ♀♀ at 11:00^(N) (1 of these saved as specimen),
1 ♂ in the south cave at 11:30, and one of
the ♀♀ taken at 11:00 at 1:30, 3:30, & 6:00
(morning) all ^{ways} in the north cave. Possibly
other bats listed as *M. yumanensis* were
volans as I did not begin to notice
immediately that I was getting another
kind.

Mar. 5

We got 1 ♂ at 8:30 pm, 5 cave, a return from
Sept. 24 #46 - 26883.

April 9

4 1/2 mi. SE Parkfield, Monterey Co., Calif.

In an abandoned house, I found 2 ♀♀ together
under wallpaper and Carl found 1 ♂ under wallpaper
in another room. We gave the ♂ to San McMillan. I
gave the reproductive tracts of the ♀♀ to Pearson.

M. Koford
1948-9

5

Myotis volans

April 26 3½ mi. N Parkfield, 3000', Monterey Co., Calif. (Patriquin Mine)
I caught one ♂ at dusk trying to fly out of the main shaft which we had blocked with a net.

May 9 Bixby Cr., 250', ½ mi. E, 4¼ mi. N Point Sur Lighthouse, Monterey Co., Calif.

Carl shot a ♂ at 11:00 a.m. (daylight saving time) flying about in the shade of alder trees about 20' from the creek. The tree canopy was about 20' above the ground. The bat was apparently feeding and I saved the material from its mouth in alcohol to identify if possible.

April 2 Pit River, 3000', 11½ mi. NE Burney, Shasta Co.
1949

Just before dark, in a chalk tunnel open at both ends we found 1 ♂ hanging in the open from the ceiling, torpid.

April 8 Fort Tejon, Kern Co.

Carl caught 1 ♀ night-roosting in one of the old buildings.

Oct. 19 Pit River, 3000', 11½ mi. NE Burney, Shasta Co.

In the chalk tunnel open at both ends we found 3 ♂♂, all hanging singly and torpid (about noon).

M. Ramage
1946

Myotis yumanensis - banding record

July 15 Forks of Waddell Cr., Santa Cruz Co., Calif.

46 - 15145 ♀ ad } injured?
6 ♂ im. }
~~juv.~~

7 " "

8 " "

9 " "

50 ♀ im.

1 ♂ im.

Killed March 16

2 ♀ lact.

July 16

Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co.

15155 ♂ im. ("crack I")

257 ♀ im. "crack II"

8 " " " "

9 " " " "

60 " " " "

1 " " " "

2 ♂ im. " "

3 " " " "

4 ♀ im. " "

5 ♂ im. " "

6 ♀ im. " "

7 ♀ im. " "

8 ♀ im. " "

9 ♂ im. " "

70 " " " "

1 " " " "

2 " " " "

3 " " " "

M. Ramage
1946

(2)

Myotis yumanensis (s. *lucifugus*)

July 16 Tuolumne R., 900', 2½ mi. SSE Jacksonvillle, Tuolumne Co.

46-15274 ♀ ad. "crack II"

5	"	"	"
6	"	"	"
7	"	"	"
8	"	"	"
9	"	"	"
80	"	"	"
1	"	"	"
3	"	"	"
4	"	"	"
5	"	"	"

July 29 Brockway, 6300', Lake Tahoe, Placer Co., Calif.

46-15501 ♀

2 ♀ im.

3 ♀

4 ♀

5 ♀

6 ♂ ad

7 ♀ im

8 ♀ im

9 ♀

10 ♀ im

1 ♀

2 ♀

3 ♀ im

4 ♀

5 ♀

unmarked ♀♀
mostly ad.

M. Ramage
1946

Myotis yumanensis (& *lucifugus*)

July 29 Brockway, 6300', Lake Tahoe, Placer Co., Calif.

46-15516 ♀

7 ♀

8 ♀ im

9 ♂ ad

20 ♀

1 ♀ im

2 ♀ im

3 ♀

4 ♀

5 ♂ ad

6 ♀

7 ♀

8 ♀ im

9 ♀

30 ♀ im

1 to 7 ♀♀

8 ♂ im

9 to 41 ♀♀

42 ♂ im

3 ♀

4 ♀ im

5 to 51 ♀♀

52 ♂ ad

3 ♀

4 ♀

5 ♀ im

6 to 62 ♀♀

M. Parnage
1946

Myotis yumanensis (*lucifugus*)

July 29 Brockway, 6300', Lake Tahoe, Placer Co., Calif.

46 - 15563 ♀ im

4 to 5 ♀♀

6 ♀ im

7 to 9 ♀♀

20 ♂ ad

1 - 2 ♀♀

3 ♀ im

4 ♀

5 ♂ ad

6 to 87 ♀♀

88 ♀ im

9 to 91 ♀♀

92 ♀ im

killed .2 mi. from Brockway Aug. 19
by F. R. Wallace

3 to 5 ♀♀

6 ♂ ad

7 ♀

8 ♀ im

9 to 603 ♀♀

604 ♀ im

5 ♀ im

6 - 7 ♀♀ 15607 dead ♂ on Aug by Longanecker

8 ♂ ad

9 ♀

10 ♀ im

1 to 8 ♀♀

9 ♀ ad

20 ♀ im

unmarked ♀♀
are mostly ad



M. Ramage
1946

Myotis yumanensis (*lucifugus*)

July 29 Brockway, 6300', Lake Tahoe, Placer Co., Calif.

46-15621 to 77 ♂♂ im. 15662 dead ♂ on Aug by Longenecker
15634 " " " " " "

15678 ♂ im from crack in rock

9 ♀ im " " " "

80 ♂ ad

1 ♀ im from crack in rock

2 to 99 ♀♀ im.

~~200 to 800 ♀♀~~

700 ♀

1 ♀ im

2 ♀

3 ♀ im

4 ♀ im

5 ♂ ad

6-8 ♀♀

9 ♂ ad

10 ♀ im

1 ♀ im

2 to 21 ♀♀

22 ♂ ad

3 ♀

4 ♀ im

5 to 35 ♀♀

36 ♂ ad

7 to 9 ♀♀

40 ♀ im

1 to 7 ♀♀

8 ♀ im

15737 dead ♂ ³⁰ on Aug by Longenecker

house attic at Tahoe Vista fall '47



M. Ramage
1946

(6)

Myotis yumanensis (x *lucifugus*)

July 29 Brockway, 6300', Lake Tahoe, Placer Co., Calif.

46 - 15749 ♀ im

50 ♀

dead ♂³⁰ on Aug by Longanecker

1 ♀

2 ♀ im

3 to 7 ♀♀

8 ♀ im

9 ♀

60 ♀ im

1 ♀

2 ♂ ad

3 ♂ ad

4 to 8 ♀♀ 15767 dead ♂ on Aug by Longanecker

9 ♂ ad

70 ♀

1 ♀ im

2-3 ♀♀

4-6 ♀♀ im

7 ♀

8-9 ♀♀ im

80 ♀

1-2 ♀♀ im

3-4 ♂ ad

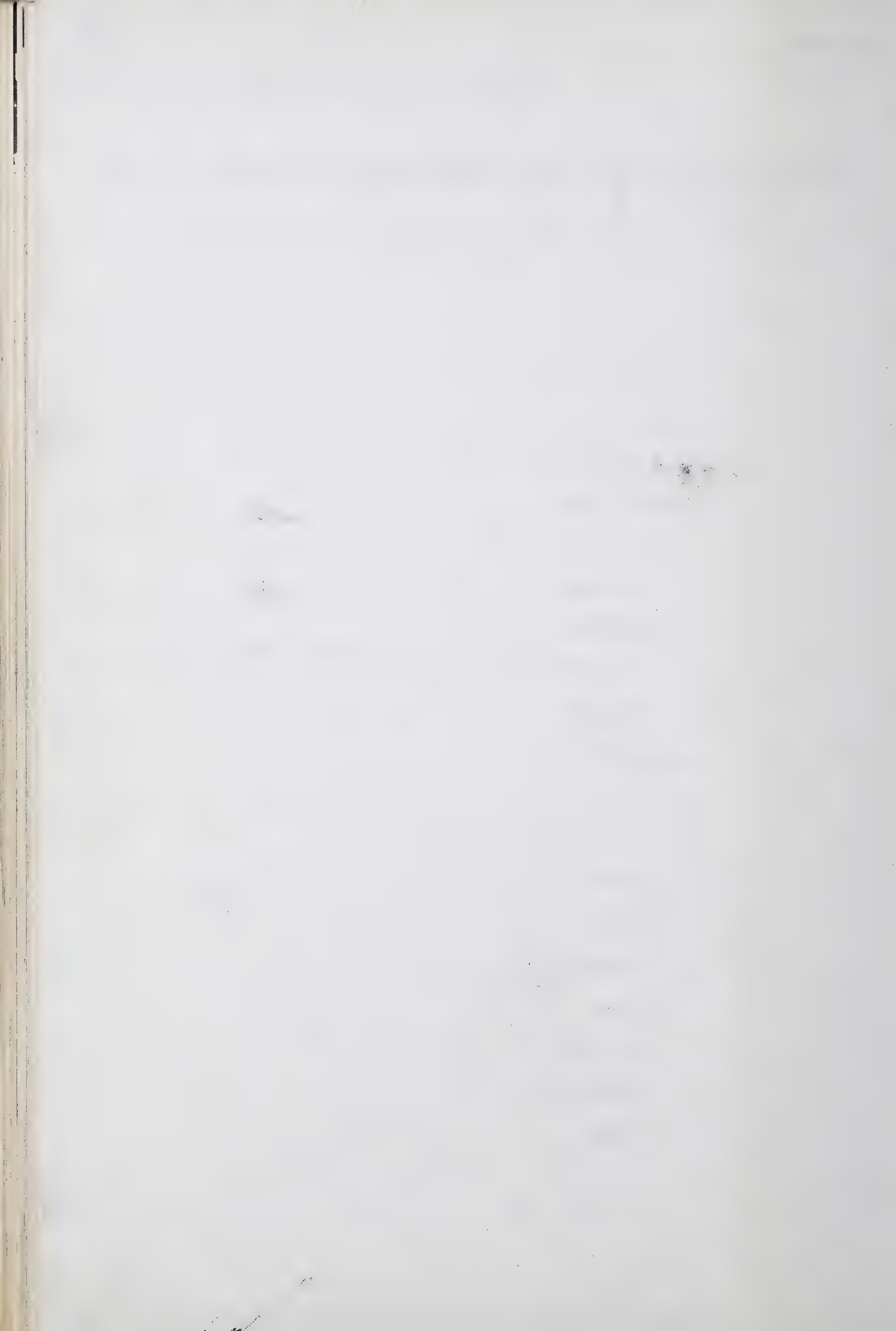
5 ♀

6 ♀ im

7 to 90 ♀♀

91 ♀ im

2-3 ♀♀



M. Ramage
1946

Myotis yumanensis (*lucifugus*)

July 29 Brockway, 6300', Lake Tahoe, Placer Co., Calif.

46-15794 ♂ ad

5 to 800 ♀♀

801 to 50 ♀♀ im.

51 to 66 ♂♂ im

67 to 75 ♂♂ mostly ad

76 to 16012 ♀♀ ad

16013 to 74 ♂♂ im

75-6 ♀♀ im

15817 dead ♂ on Aug by Longanecker

15822 dead Aug 4 at edge of Lake
- Tahoe Vista Hotel by D.S.

Longanecker 2.2 mi. N Brockway

15917 house attic at Tahoe Vista
fall '47

16065 dead ♂³⁰ on Aug by Longanecker

Aug. 11 Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co.

16088 to 95 ♀♀ mostly ad?

96 ♀ im

7 ♂ im

8 ♂ ad?

"crack
II"

Sept. 28

Zucerne, Lake Co.

16152 ♂ 5:30, 9:00 pm N Oct. 19 4 pm N

5 ♂ 5:30 pm S July 14 '47 9 pm S Aug 16 10:30 pm S

6 ♂ 5:30 S, 9:00 pm N Mar 8 '47 3 pm N

7 ♂ 5:30 pm S Oct. 20 12:30 am S May 23 '47 11 pm S

8 ♂ 5:30, 7:30 S Nov. 16 4:30 pm S Mar 8 '47 8 pm S Apr 19 10 pm S

9 ♂ 7:30 pm N

60 ♀ Apr 20 '47 3 am N May 3 8:30 pm S

1 ♀ Apr 19 '47 9:30 pm N

2 ♀ 9 pm N May 4 '47 2:30 am N

3 ♀ 9, 11 pm N Apr 19 '47 9:30 pm N

4 ♀ 9 pm N

5 ♀ May 23 '47 10 pm N Aug 10 1:30 am N post-lact.

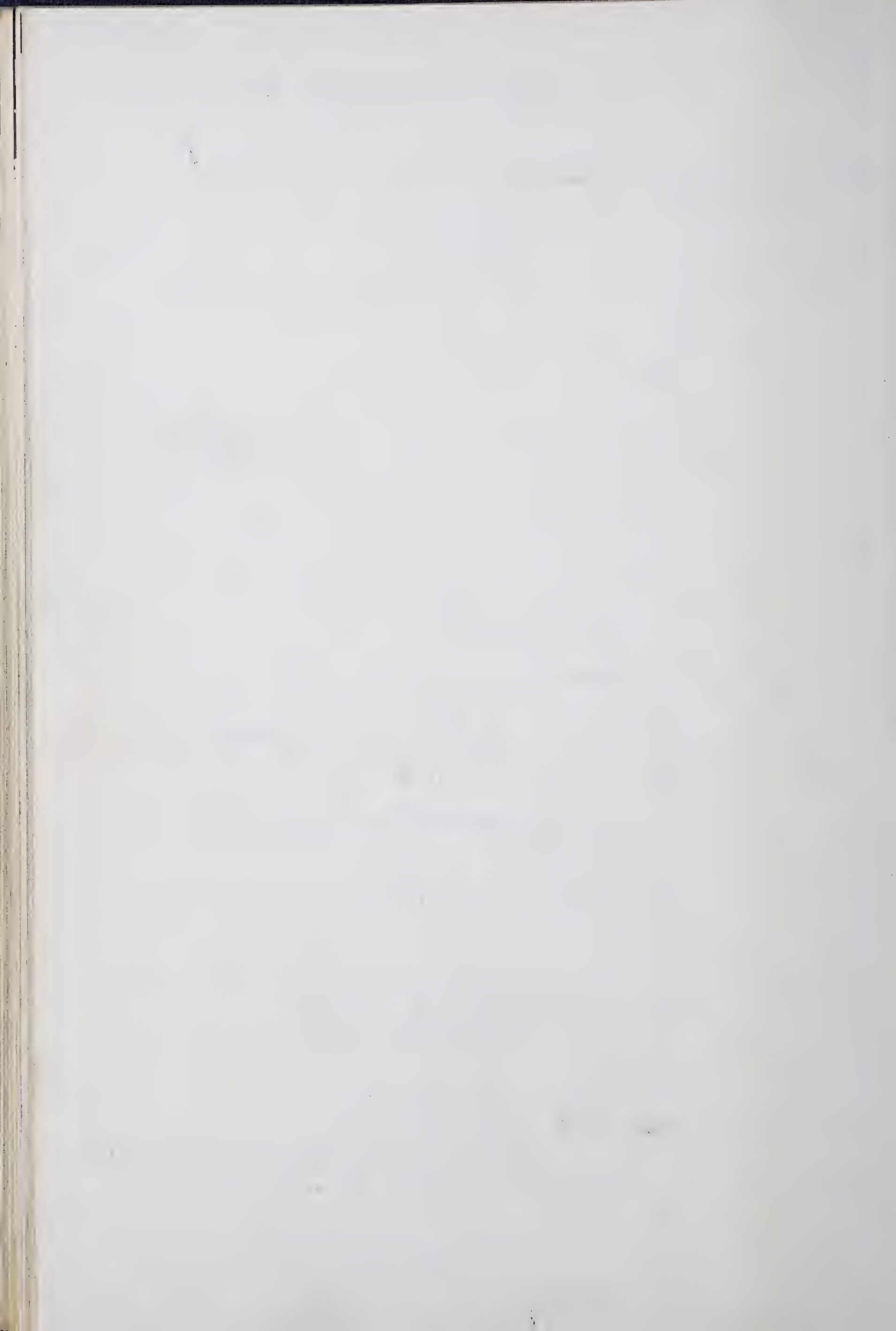
6 ♀ "

M. Ramege
1946

Myotis yumanensis (& *lucifugus*)

Sept. 28 Zucerne, Lake Co., Calif.

46	16	167	♀	9 pm N	June 12 '47 10 pm N
					May 12 '49 10 pm N
		8	♀	"	
		9	♀	"	April 19 '47 9:30 pm N
					?
		70	♀	"	
					May 3 '47 10 pm N
		1	♀	"	
		2	♀	"	
		3	♀	"	
		4	♀	"	
		5	♀	"	
		6	♀	"	
		7	♀	9 pm, 2:30 am N	
		8	♀	9 pm N	
					May 3 '47 10 pm N
		9	♀	"	
					April 20 '47 3, 7 am N; July 14 9 pm N
		80	♀	"	
		1	♀	"	
		2	♀	9 pm, 12 N	April 19, ¹⁴⁷ 9:30 pm N May 3-4 10 pm, 2 am N
		3	♀	9 pm N	
		4	♀	"	March 29 '47 10 pm N
		5	♀	"	
					Sept. 24, ¹⁴⁷ 6:30 pm, 9:30 pm, 3:30 am N br.
		6	♀	"	Sept. 30 '48 6, 10 pm N
					May 3 '47 10 pm N
		7	♀	"	
		8	♀	9, 11 pm N	
					April 20 '47 3 am N
		9	♀	9 pm N	
					March 29 '47 10 pm N April 19 9:30 pm N May 4 2:30 am N
		91	♀	9 pm S	July 14 9 pm N May 12 '49 10 pm N, 12:30 am S
		2	♂	"	
					April 19 '47 10 pm S June 13 1 am S
		3	♀	"	
					May 4 '47 2:30 am N
		4	♀	9 pm S, 11 pm N	



M. Ramage
1946

Myotis yumanensis (*g. lucifugus*)

Sept. 28 Zucerne, Lake Co., Calif.

46-16195 ♀ 9pm S April 19 '47 9:30pm N, 3am S May 3 8:30pm S

Nov. 16 4:30pm S

6 ♂ 9, 11pm S

7 ♂ 9pm S

Oct. 20 12:30am N March 8 '47 8pm S

8 ♀ 9pm S, 11pm N

April 19 '47 12 N

9 ♂ 9pm S

April 19 '47 10pm S

200 ♀ 9pm S, 11pm N

March 29 '47 10pm N

1 ♀ 9, 11pm S

May 3 '47 10pm N

2 ♀ 9pm S

3 ♀ 11pm N

4 ♂ "

Oct 19 '47 5pm N Sept 24 '47 6:30pm N Sept 30 '48 10pm N

6 ♀ "

March 29 '47 10pm N

7 ♂ "

8 ♂ "

March 29 '47 10pm N April 20 12 N, 3 S

9 ♀ "

May 13 '49 12:30am S

10 ♀ 11pm S

April 19 '47 9:30pm N

1 ♂ 11 S, 12 N

May 3 '47 10pm N

2 ♀ 11 S

April 20 '47 3am S May 23 11pm S Sept. 24 10pm S

3 ♀ "

May 3 '47 10pm N

4 ♀ "

5 ♂ 11 S, 12 N

April 19 '47 10pm S May 3 10pm N

6 ♀ 11 S

April 19 '47 9:30pm N June 12 11pm S
Aug '49 Killed in Hotel

7 ♀ "

8 ♂ "

March 8 '47 3:30pm N Sept. 30 '48 10 N, 10:30 S

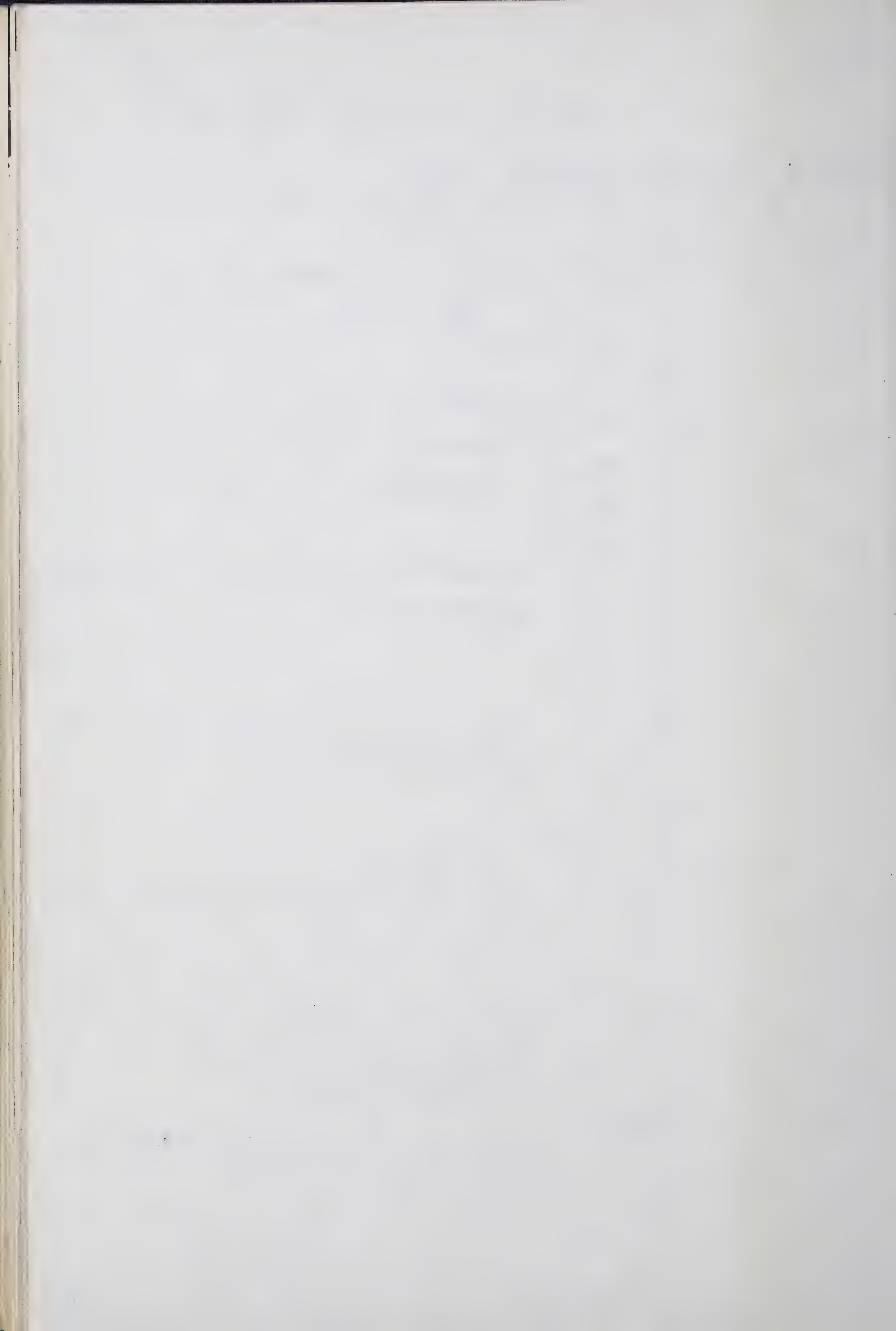
9 ♀ "

Nov. 16 4:30pm S

20 ♂ "

1 ♂ "

3 ♀ 12:15am N



M. Ramage
1946

Myotis yumanensis (x lucifugus)

Sept. 29 Zucerne, Lake Co., Calif.

46-16227 ♂ 12:30am N

8 ♀ "

9 ♀ " April 19 '47 12 N

30 ♀ "

Nov. 16 9pm N

1 ♂ "

April 19 '47 9:30pm N Sept. 30 '48 10:30pm S

2 ♀ "

March 6 '48 1am, 9:30am N

3 ♂ 12:30am S

March 8 '47 3:30pm S April 20 3, 7am S

5 ♂ 2:30am S

Nov. 16 7pm S May 3 '47 5pm S

6 ♂ "

March 8 '47 8pm N

7 ♂ "

March 29 '47 5pm S

8 ♂ 2:30am N

9 ♂ "

40 ♂ "

1 ♀ "

2 ♂ "

April 20 '47 3, 7am N

3 ♀ "

4 ♀ "

5 ♂ "

6 ♂ "

7 ♀ "

8 ♀ "

April 19 '47 9:30pm N May 3 10pm N

June 12 10pm N not preg.

Oct. 20 2:30am S

9 ♂ 4:30am N

50 ♂ "

1 ♂ "

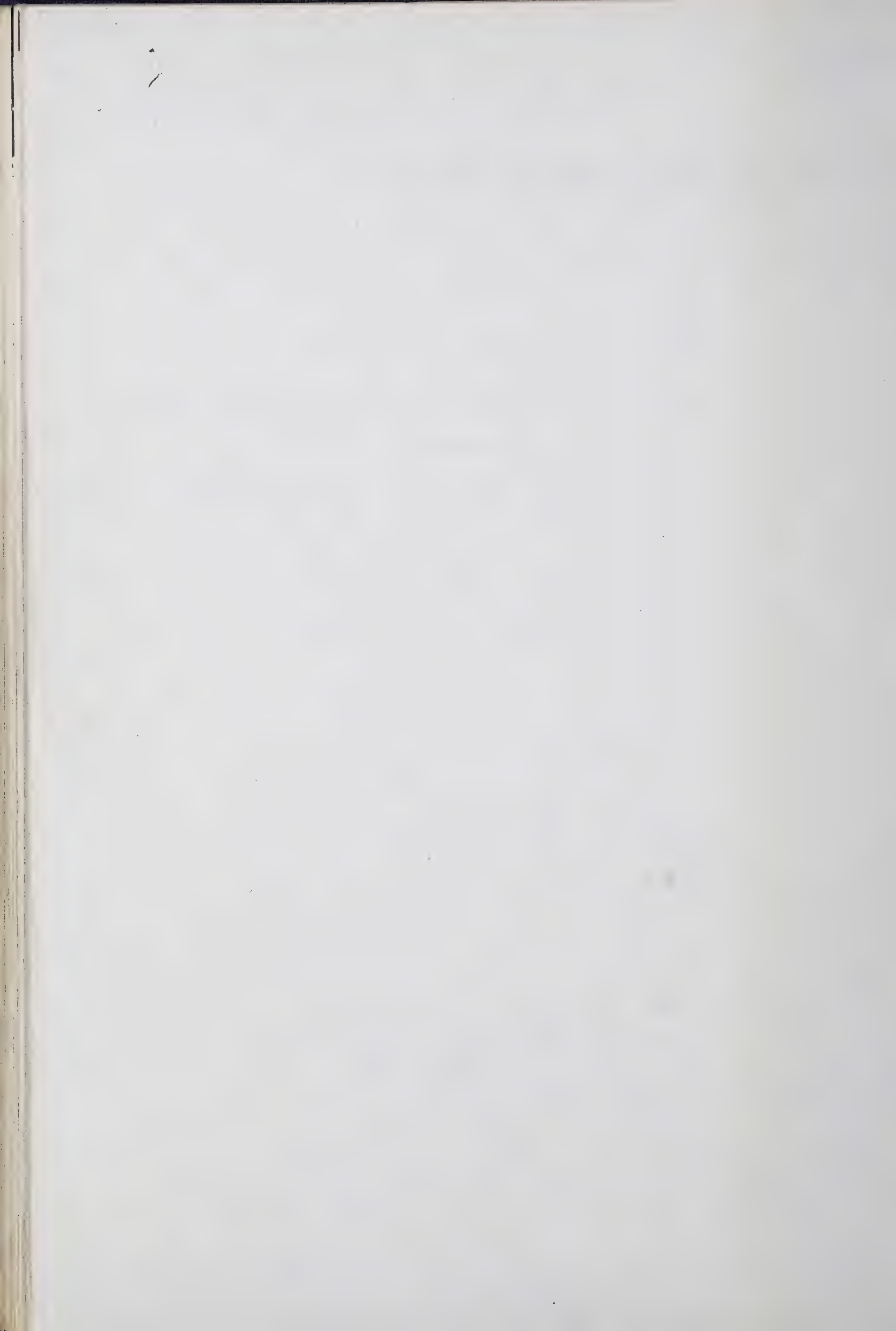
2 ♀ "

3 ♂ "

4 ♂ "

Oct. 20 2:30am S March 8 '47 8pm S March 29 10pm N

April 19 10pm S



(11)

Sept. 28 Zucerne, Lake Co., Calif.

Nov. 29 '6, 8 pm S

46-16255 on 4:30 am N

March 8 '47 3:30pm S April 19 10pm S

G ♀ 4:30 am S

May 12 '49 10 pm N

7 ♀ Dance Hall

80 11

90 ..

60 ♀ 4

1 ♀ 11

2♂ " "

3 ♀ "

4 2 11

50 11

68 H

7 ♀ "

87 "

9 0 11

70 ♀ "

1000

20 + "

3 ♀ "

49 Hotel

5 ♀ " "

68 11

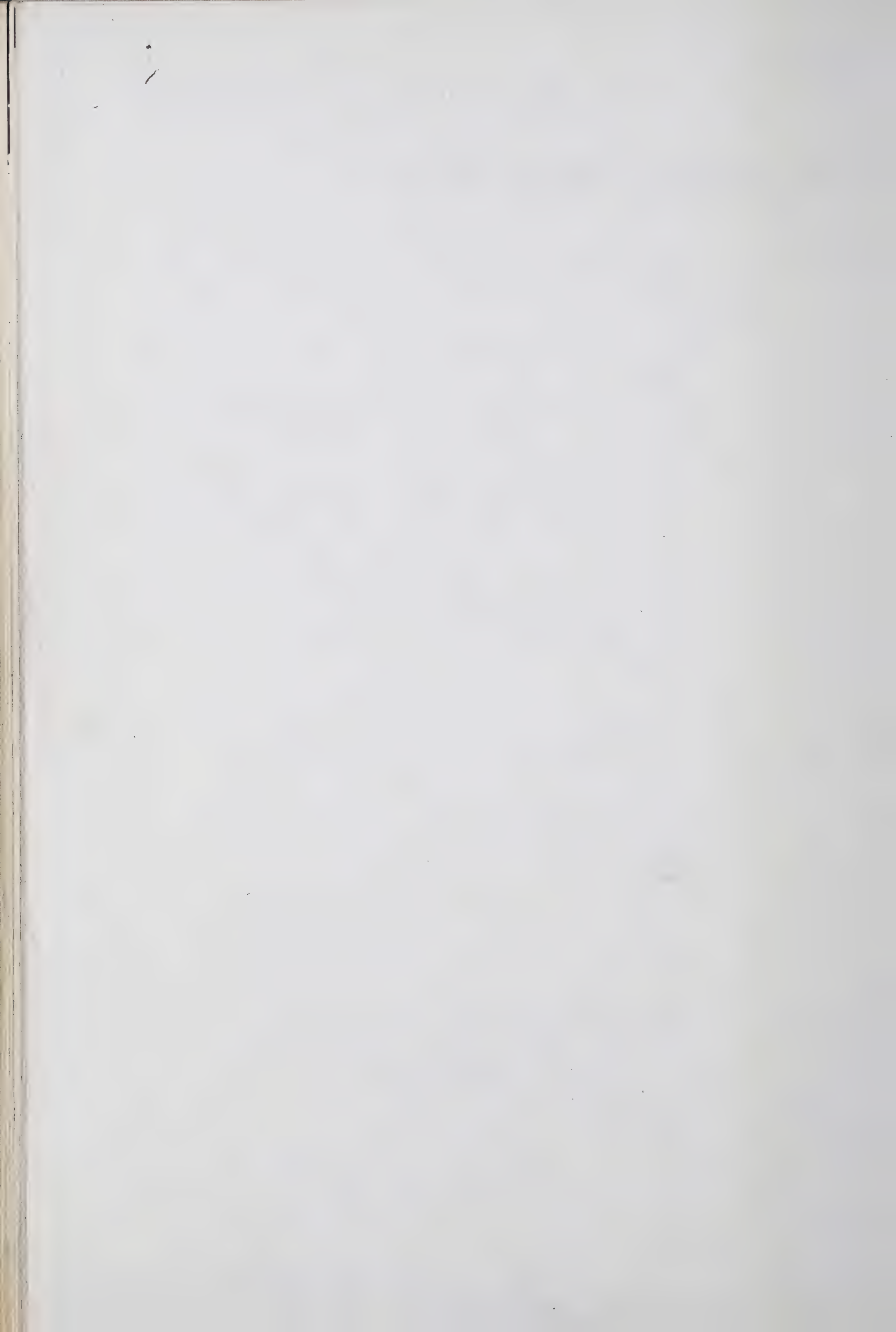
7 ♀

80 11

90 "

80 6 11

10 2



M. Ramage
1946

(11)

Myotis yumanensis (vs *lucifugus*)

Sept. 28 Zucerne, Lake Co. Calif.

Nov. 29 '46, 8 pm S

46-16255 ♂ 4:30 am N

March 8 '47 3:30 pm S April 19 10 pm S

6 ♀ 4:30 am S

May 12 '49 10 pm N

7 ♀ Dance Hall

8 ♀ "

9 ♀ "

60 ♀ "

1 ♀ "

2 ♂ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♂ "

7 ♀ "

8 ♂ "

9 ♀ "

70 ♀ "

1 ♀ "

May 8 '47 2:30 am N

2 ♀ "

3 ♀ "

4 ♀ Hotel

5 ♀ "

6 ♂ "

7 ♀ "

8 ♀ "

9 ♀ "

80 ♀ "

1 ♀ "



M. Ramage
1946

Myotis yumanensis (vs *lucifugus*)

Sept. 29 Zucerne, Lake Co., Calif.

46-16282 ♀ Hotel

3 ♀ "

4 ♂ "

5 ♀ "

6 ♂ "

7 ♂ "

8 ♀ "

9 ♂ "

90 ♀ "

1 ♀ "

2 ♀ "

3 ♂ "

4 ♀ "

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ "

9 ♂ "

300 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♂ "

6 ♂ "

7 ♀ "

9 ♂ 4 pm N

Oct 19 9 pm N Nov. 16 7 pm S 11 pm N July 14 '47 9 pm S
Aug. 11 '47 2:30 am S

May 12 '49 10 pm N

Oct. 19

M. Ramag
1946

Myotis yumanensis (& *lucifugus*)

Oct. 19 Lucerne, Lake Co., Calif.
Nov. 17 1am S

46-16310 ♂ 4pm N

2 ♂ "

3 ♂ "

4 ♂ "

Nov. 16 7pm S

9 ♂ "

May 3 '47 8:30pm S, 2:30am S

21 ♂ 4pm N, 7pm S

March 29 '47 5pm N

4 ♂ 5pm N

6 ♂ "

7 ♂ 8pm N

8 ♂ 8pm N

9 ♂ "

30 ♂ "

2 ♂ 8N, 9S

3 ♂ 8N

4 ♂ " Nov. 16 11pm N

5 ♂ " April 19 '47 9:30pm N Aug. 11 1:30am N

8 ♂ " Nov. 16 9pm N March 8 '47 10:30pm N

40 ♂ "

2 ♂ "

3 ♂ 8, 9, 11 N

4 ♂ 8N Nov. 16 4:30pm N

5 ♂ "

6 ♂ "

7 ♂ 8S

9 ♂ 8S, 9N

Nov. 16 7pm S March 30 '47 1:30am S

50 ♂ 8, 9 S

March 8 '47 10:30pm N March 29 10pm N

1 ♀ 9N



M. Ramage
1946

Myotis yumanensis (& *lucifugus*)

Oct. 19 Zucerne, Lake Co., Calif.

46-16358 ♂ 9 pm S

60 ♂ "

1 ♂ 11 N

2 ♂ "

April 20 '47 3,7 am N

3 ♂ "

Sept. 25 '47 1:30 am N br.

5 ♂ "

Nov. 16 11 pm N

9 ♂ 11 S

Nov. 17 3 am N

70 ♂ "

6 ♂ 12:30 am N

March 5 '48 10 pm S

7 ♂ "

Nov. 16 11 pm N

8 ♂ "

Nov. 16 4:30 pm S

9 ♂ "

80 ♂ "

1 ♀ "

Nov. 17 3 am N

2 ♂ "

Feb. 13 '48 8 pm N

3 ♂ "

4 ♂ "

April 19 '47 10 pm S

5 ♂ "

6 ♂ "

91 ♂ 12:30 am S

Nov. 16 4:30 pm N

3 ♂ "

April 19 '47 9:30 pm N

5 ♂ 2:30 am N

6 ♂ "

March 29 '47 11 pm S

7 ♂ "

8 ♂ "

9 ♂ "

March 29 '47 10 pm N March 5 '48 10 pm N

400 ♂ "



M. Ramag
1946

Myotis yumanensis (& *lucifugus*)

Oct. 19 20 Lucerne, Lake Co., Calif.

46-16401 ♀ 2:30 am N

2 ♂ "

5 ♂ 2:30 am S

8 ♂ "

9 ♂ "

11 ♂ "

2 ♂ "

3 ♂ 4:30 am N

May 4 '47 2:30 am N

March 8 '47 10:30 pm S

March 29 '47 10 pm N

Nov. 16 7 pm S

Oct. 20 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

7 ♀

8 ♂

9 ♂

20 ♀

1 ♀

2 ♀

3 ♀

4 ♂

5 ♂

6 ♀

7 ♀

32 ♀

3 ♂

4 ♀

3 mi. SE Clear Lake Oaks, Lake Co., Calif.

5 ♂

Nov. 16 Lucerne

53 ♂ 4:30 pm N

M. Ramag
1946

Myotis yumanensis (& *lucifugus*)

Nov. 16 Zucerne, Lake Co., Calif.

46- 16454 ♂ 4:30 pm N

March 8 '47 8, 10:30 N

5 ♂ "

Nov. 23 '48 9, 11:30 pm N band ch.

6 ♂ "

7 ♂ "

8 ♂ "

9 ♂ "

60 ♂ "

1 ♂ "

2 ♂ "

3 ♂ 4:30 N, 7 N

4 ♂ 4:30 N, 7 S

5 ♂ 4:30 N

6 ♂ "

March 8 '47 10:30 pm N May 3 10 pm N
Feb 13 '48 8, 11 pm N

7 ♂ 4:30 N, 9 N

8 ♂ 4:30 N

9 ♂ "

March 29 '47 10 pm N

70 ♂ "

1 ♂ "

March 8 '47 3:30 pm S

2 ♂ "

March 29 '47 8 pm S

3 ♂ "

4 ♂ 4:30 N, 7 S

5 ♂ 4:30 N

6 ♂ "

March 29 '47 11 pm S

7 ♂ "

March 8 '47 3:30 pm N April 20 3, 7 am N

8 ♂ "

9 ♂ "

80 ♀ "



M. Ramage
1946

Myotis yumanensis (9 lucifugus)

Nov. 16 Lucerne, Lake Co., Calif.

46 - 16481 ♂ 4:30 pm N

3 ♂ 4:30 pm S

4 ♂ "

March 8 '47 3:30 pm N

5 ♂ "

6 ♂ "

~~March 8 '47 8 pm N~~

7 ♂ "

8 ♂ "

~~March 8 '47 8 pm N~~

9 ♂ "

~~March 8 '47 8 pm N~~

90 ♂ "

1 ♂ 4:30 N, 7 S

March 29¹⁴⁷ 8 pm S

3 ♂ 7 pm S

4 ♂ 7 S, 9 N

Nov. 23 '48 9:20 pm S

5 ♂ 7 S

March 29 '47 5 pm S May 3 '47 10:30 pm S

6 ♂ "

March 8 '47 8 pm N

7 ♂ "

8 ♂ "

March 8 '47 8 pm N

9 ♂ "

March 8 '47 8 pm N

500 ♂ "

1 ♂ "

2 ♂ "

March 8 '47 8 pm N

3 ♂ 7 N

March 8 '47 10:30 pm N

4 ♂ "

5 ♂ "

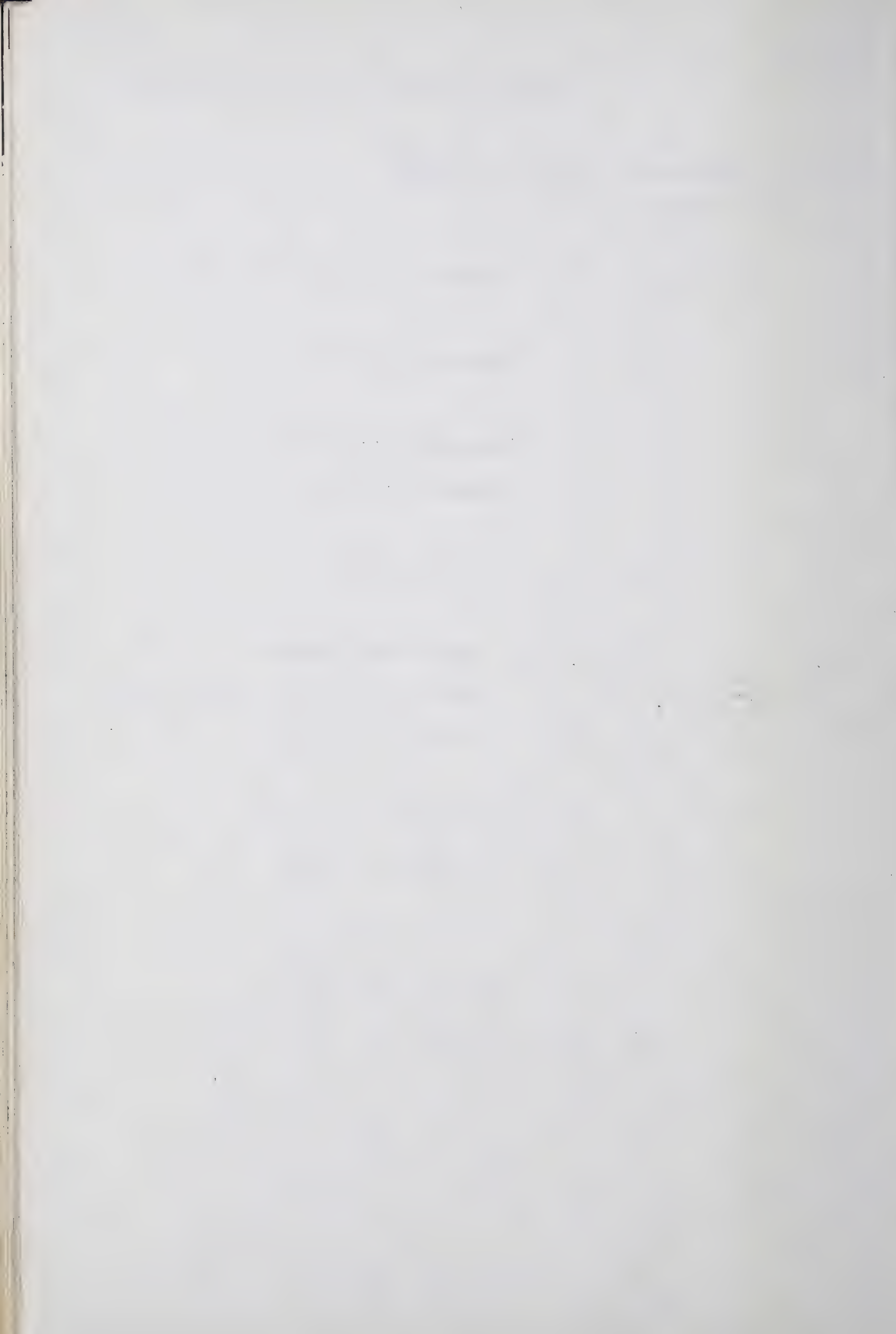
6 ♂ "

7 ♂ "

8 ♂ "

9 ♂ "

May 4 '47 2:30 am N



M. Ramage
1946

Myotis yumanensis (+ *lucifugus*)

Nov. 16 Lucerne, Lake Co; Calif.

46- 16 5-10 ♂ 7:00 pm N

1 ♂ "

3 ♂ "

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ "

Nov. 29 8 pm N

20 ♂ 9 pm S

March 8 '47 8 pm N

2 ♂ 9 S, 11 N, 15

March 8 '47 8 pm S

3 ♂ 9 N

March 8 '47 8 pm S

4 ♂ "

Feb 14 ¹⁴⁸ 2:30 am S Nov. 23 '48 9:20 pm S

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ "

March 8 '47 8 pm S

9 ♂ "

March 8 '47 10:30 pm N

30 ♂ "

1 ♂ "

2 ♂ "

3 ♂ "

4 ♂ "

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ "

9 ♂ "

Nov. 29 10 pm N

40 ♂ "



M. Ramage
1946

Myotis yumanensis (*lucifugus*)

Nov. 16 Zucermane, Lake Co., Calif.

46-16541 ♂ 9:00 pm N

2 ♂ "

3 ♂ "

4 ♂ "

5 ♂ "

6 ♂ "

March 8 '47 10:30 pm N

7 ♂ "

8 ♂ "

9 ♂ "

March 8 '47 10:30 pm N

50 ♂ "

1 ♂ "

2 ♂ "

3 ♂ 9 N, 11 S

4 ♂ 9 N

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ "

9 ♂ "

60 ♂ 9 N, 11 N

1 ♂ 9 N

2 ♂ "

3 ♂ "

Nov. 30 2 am N

4 ♂ "

5 ♂ "

6 ♂ 9 N, 11 N

7 ♂ 9 N

March 8 '47 8 pm N May 3 8:30 pm S
June 12 11 pm S March 5 '48 10 pm S



M. Ramage
1946

Myotis yumanensis (*luciferus*)

Nov. 16 Zucerne, Lake Co., Calif.

46-16568 ♂ 9:00 pm N

9 ♂ "

70 ♂ "

1 ♂ "

2 ♂ "

3 ♂ "

4 ♂ "

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ "

9 ♂ "

80 ♂ "

1 ♂ "

2 ♂ 9, 11 N

3 ♂ 9 N

4 ♂ "

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ "

9 ♂ "

90 ♂ "

1 ♂ "

2 ♂ "

3 ♂ "

4 ♂ 11 S

Feb 13 '48 11 pm N

March 29 '47 10 pm N

Feb 13 '48 8:30 pm S

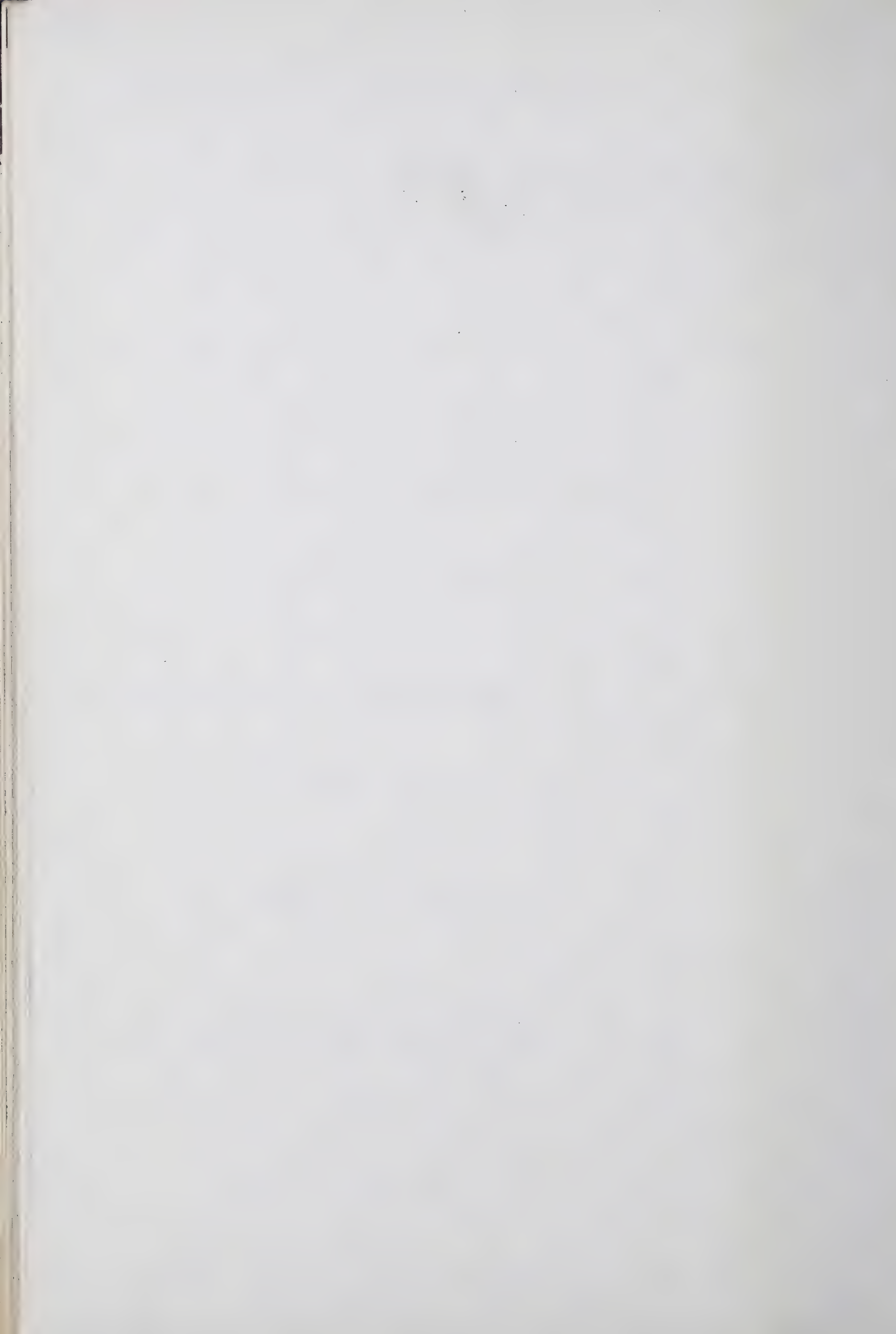
March 29 '47 10 pm N Feb 13 '48 8 pm N

March 8 '47 10:30 pm N

March 29 '47 10 pm N

March 8 '47 8 pm N March 29 11 pm S
May 3 10 pm N Sept. 24 10 pm S bi.

April 19 '47 12 N



M. Ramage
1946

Myotis yumanensis (s. *lucifugus*)

Nov. 16 Lucerne, Lake Co., Calif.
March 8 '47 10:30 pm N

46-16595 ♂ 11:00 pm S

6 ♂ 11 S, 1 N

9 ♂ 11 N

600 ♂ "

March 5 '48 10 pm N

1 ♂ "

2 ♂ "

March 8 '47 8 pm S

3 ♂ "

4 ♂ found Sept. 2 '47 at Lakeport by J. Z. Mallory,
(corres. Oct 10 '47, Mar. 30 '48) Box H, Lakeport.

5 ♂ 11 N

6 ♂ ~~1:00 am N~~

7 ♂ "

8 ♀ "

9 ♂ ~~11 N~~ March 8 '47 8 pm N

10 ♂ "

1 ♂ "

2 ♂ "

3 ♂ "

4 ♂ "

5 ♂ "

6 ♂ 1:00 am N

7 ♂ "

8 ♂ "

22 ♂ 3 am N

4 ♂ "

5 ♂ "

Nov. 17 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

8 ♀



M. Ramage
1946

Myotis yumanensis (& *lucifugus*)

Nov. 17 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

46-166 29 ♂

30 ♂

1 ♂

2 ♂

Nov. 29

8 ♂ under
wallpaper

Lucerne, Lake Co.

40 ♂ 4:00 pm N

1 ♂ "

2 ♂ 4:00 pm S

3 ♂ 4, 6, 8 S

4 ♂ "

5 ♂ 4 S

6 ♂ 4, 6, 8 S

7 ♂ 6 N, 8 N, 10 S

8 ♂ 6 N

50 ♂ 8 N

1 ♂ "

2 ♂ "

3 ♂ "

4 ♂ "

5 ♂ "

6 ♂ "

7 ♂ "

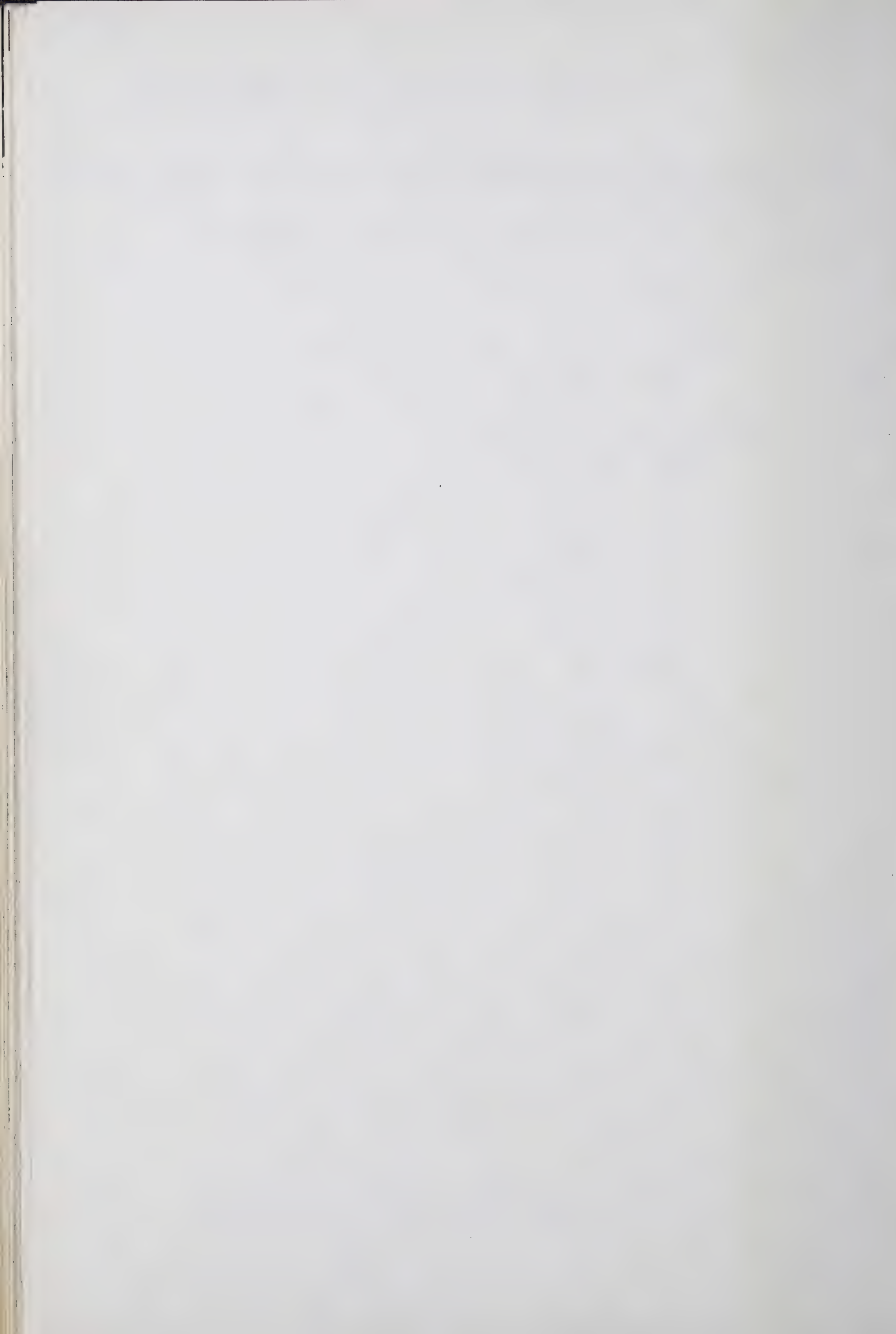
8 ♂ "

9 ♂ "

60 ♂ "

1 ♂ "

found Oct 11 '50 7 1/2 mi E Lucerne
Glen Haven Point, Barrett's Resort



M. Ramage
1946-7

Myotis yumanensis (*lucifugus*)

Nov. 29 Zucerne, Lake Co., Calif.

46-16662 ♂ 8:00pm S

3 ♂ "

4 ♂ 10:00pm N

Feb 13 '48 11pm N

5 ♂ 10:00pm S

6 ♂ "

8 ♂ "

70 ♂ 2:00am N

1 ♂ "

March 29 '47 8pm S Sept. 30 '48 10:30pm S

Dec. 28

712 ♂ 3:30pm S

March 8

32 ♂ 3:30pm N

3 ♂ "

4 ♀

"

April 19 9:30pm N

5 ♂ 3:30pm, 10:30 N

7 ♂ 3:30, 8:00 N

8 ♂ "

9 ♂ 3:30 N

May 3 10:30pm S

40 ♂ "

1 ♂ 3:30 N, 8 S

2 ♂ 8 N, 10:30 N

3 ♂ 8 N

4 ♂ "

5 ♂ "

March 29 11pm S

6 ♂ "

7 ♂ "

March 29 11pm S

8 ♂ "

9 ♂ "

50 ♂ "



M. Koford
1947

Myotis yumanensis (& *lucifugus*)

March 8 : Zucerne, Lake Co., Calif.

46- 16-75 1 ♂ 8:00 pm N

2 ♂ 8:00, 10:30 pm N

3 ♂ 8 N

4 ♂ 8 N (8 S)

5 ♂ 8 N

6 ♂ 8, 10 N, 1 S

7 ♂ 8 N

8 ♂ 8, 10, 1 S

9 ♂ 8 S

May 4 2:30 am N

March 29 10 pm N

60 ♂ 10:30 N, 1 S

1 ♂ 10:30 N

3 ♂ "

4 ♂ "

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ "

9 ♂ "

70 ♂ "

1 ♂ "

2 ♂ 10:30 N, 1 N

3 ♂ 10:30 N

4 ♂ "

5 ♂ "

6 ♂ "

7 ♂ "

8 ♂ 10:30 N, 1 S

May 4 2:30 am S



M. Koford
1947

Myotis yumanensis (& *lucifugus*)

March 8 Zucerne, Lake Co, Calif.

46-16 779 ♂ 10:30pm N, 1 am N

80 ♂ 10:30pm N

1 ♂ "

2 ♂ "

3 ♂ "

4 ♂ " March 29 10pm N

5 ♂ "

6 ♂ "

7 ♂ " March 29 10pm N

9 ♂ 10:30 S

91 ♂ "

3 ♂ 10:30 S, 1 S

4 ♂ " "

5 ♂ " "

6 ♂ 1:00 S

7 ♂ "

8 ♂ 1:00 N

9 ♂ " Feb. 13 '48 8pm N

800 ♂ "

1 ♂ "

2 ♂ "

3 ♂ "

4 ♂ "

5 ♂ "

6 ♂ "

7 ♂ " Nov. 23 '48 9pm N

8 ♂ "



M. Koford
1947

Myotis yumanensis (& *lucifugus*)

March 29 Lucerne, Lake Co., Calif.

46-16809 ♂ Hotel

10 ♂ "

1 ♂ "

March 29 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

20 ♂ under wallpaper April 19 under wallpaper - killed

Lucerne

5 ♀ 5:00 pm N

6 ♀ "

30 ♂ 5:00 pm S

3 ♂ "

8 ♀ "

42 ♂ "

6 ♂ "

8 ♂ "

51 ♀ 8, 10 N

2 ♂ 8:00 N

3 ♀ 8:00 S

4 ♂ "

May 4 2:30 am S Aug. 10 10:30 pm S

6 ♂ 10:00 N

7 ♀ "

9 ♂ "

60 ♀ "

March 6 '48 1 am S band ch.

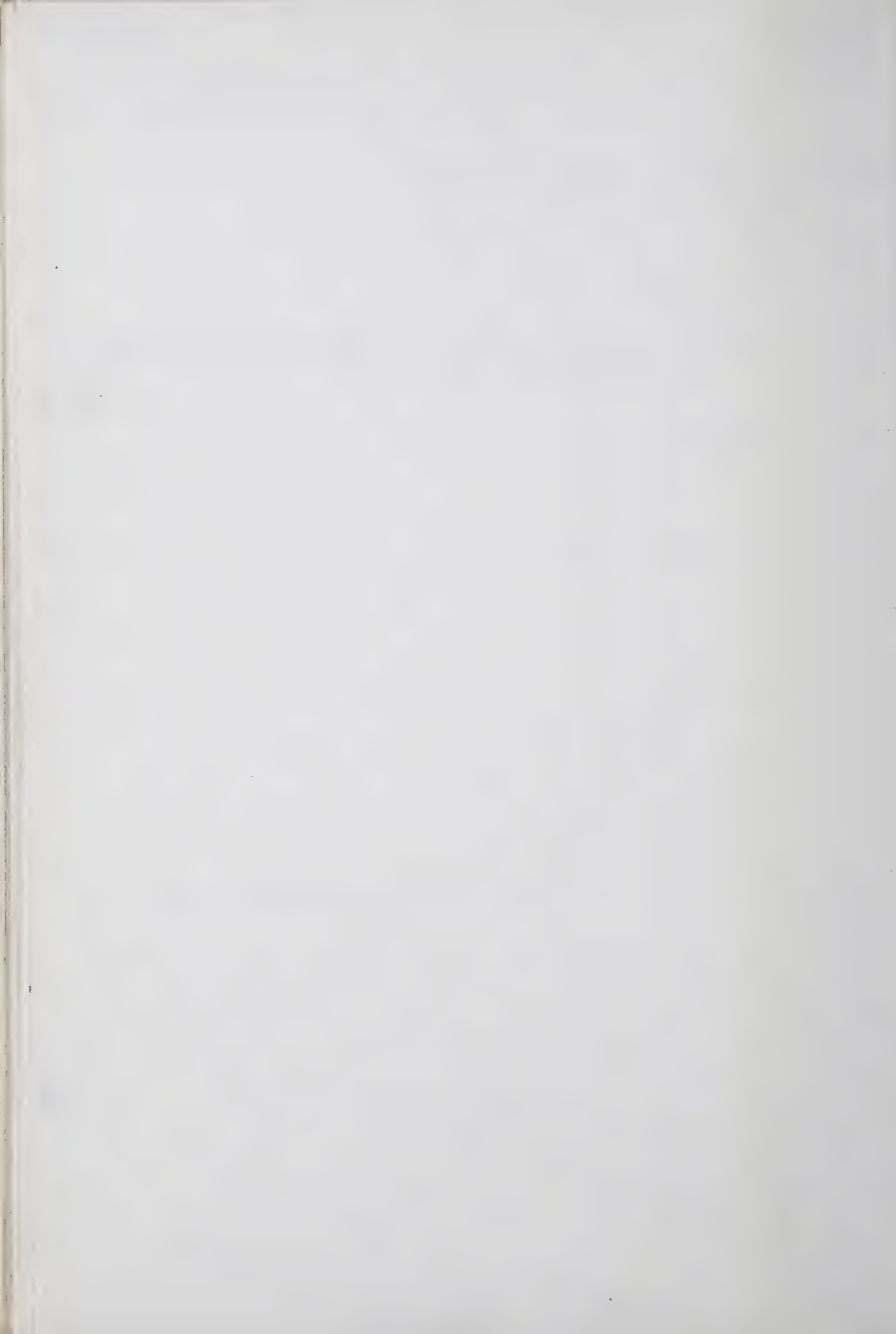
2 ♂ 10, 1 N

3 ♂ 10 N

4 ♂ "

5 ♂ "

6 ♀ "



m. Koford
1947

Myotis yumanensis (& *lucifugus*)

March 29 Zucerne, Zake Co., Calif.

46 - 16 8 6 7 ♀ 10:00 pm N

8 ♀	"	
9 ♀	"	
70 ♀	"	
1 ♀	"	
2 ♀	"	
3 ♀	"	
4 ♀	10:00 N, 1 S, 3 S	
5 ♂	10 N	
6 ♂	"	
7 ♂	"	
8 ♀	"	
9 ♀	"	
80 ♀	"	
1 ♀	"	
3 ♀	10 N, 1 S	
4 ♀	10 N	May 3 band on floor
5 ♀	"	
6 ♀	"	May 3 10 pm N
7 ♂	"	
8 ♂	"	
9 ♀	"	
93 ♀	"	
4 ♀	"	
5 ♂	"	
6 ♂	"	
7 ♀	"	



M. Koford
1947

Myotis yumanensis (♀ *lucifugus*)

March 29 Zucermane, Lake Co., Calif.

46-16898 ♀ 10:00pm N

9 ♂ "

900 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♂ "

5 ♂ "

may 3 band on floor

6 ♀ "

7 ♂ "

8 ♂ "

9 ♀ "

Sept. 30 '48 10pm N

10 ♀ 10, 1, 3 N April 19 12 N

1 ♂ 10 N

3 ♂ 11, 3 S

5 ♂ 11 S

6 ♂ "

7 ♂ "

9 ♂ "

March 6 '48 9:30am N

20 ♂ "

1 ♂ "

2 ♂ "

3 ♂ "

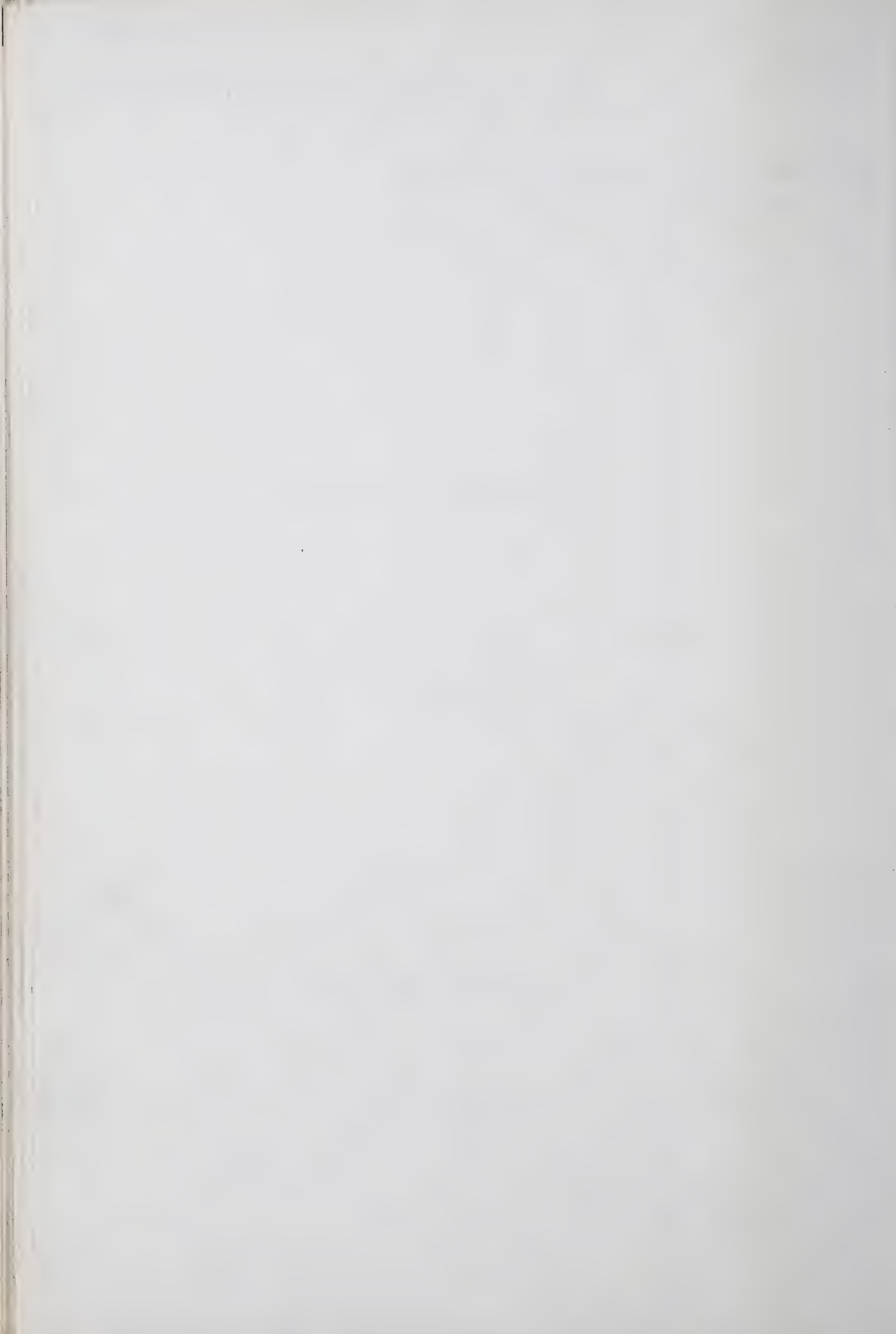
April 20 3, 7am S

4 ♂ 11, 1 S

5 ♂ 11 S

6 ♂ 11, 1 S

7 ♂ "



m. Koford
1947

Myotis gunnisonensis (+ *lucifugus*)

March 29 Zucerne, Lake Co., Calif.

46-16928 ♂ 11:00 pm S

Feb. 13 '48 8:30 pm S

30 ♂ "

1 ♂ "

2 ♂ 11 pm, 1 am S

March 30

3 ♀ 1 am N

4 ♀ "

5 ♂ 1, 3 N

6 ♂ 1, 3 S

7 ♂ 1 S

9 ♂ 7 total

40 ♂ "

1 ♂ "

2 ♂ "

3 ♂ "

4 ♂ "

5 ♂ "

6 ♂ "

1 mi. NE Sulphur Bank Mine, 10 mi. SE Zucerne, Lake Co.

7 ♀

8 ♀

April 19

Zucerne

26011 ♀ 9:30 pm N

May 3 10 pm N

2 ♀ "

3 ♀ "

5 ♀ "

6 ♀ "

7 ♀ "



M. Koford
1947

(30)

Myotis yumanensis (& *lucifugus*)

April 19 Zucerne, Lake Co., Calif. May 23 10 pm N

46- 26018 ♀ 9:30 pm N, 12:30 am S

9 ♀ 9:30 pm N

20 ♀ "

1 ♀ "

3 ♀ "

4 ♀ "

5 ♀ 9:30, 12 N

6 ♀ 9:30 N

7 ♀ " May 4 2:30 am S

8 ♀ 9:30, 12 N

9 ♀ 9:30 N May 4 2:30 am N

30 ♀ " May 3 10 pm N

1 ♀ " Sept. 24 9:30 pm N May 12 '49 10 pm N

2 ♀ "

3 ♀ 9:30, 12 N

4 ♀ 9:30 N

5 ♀ "

6 ♀ 10:15 S Sept. 30 '48 10:30 pm S

7 ♀ 10:15 S, 3 N

9 ♀ 10:15 S

40 ♀ "

1 ♀ "

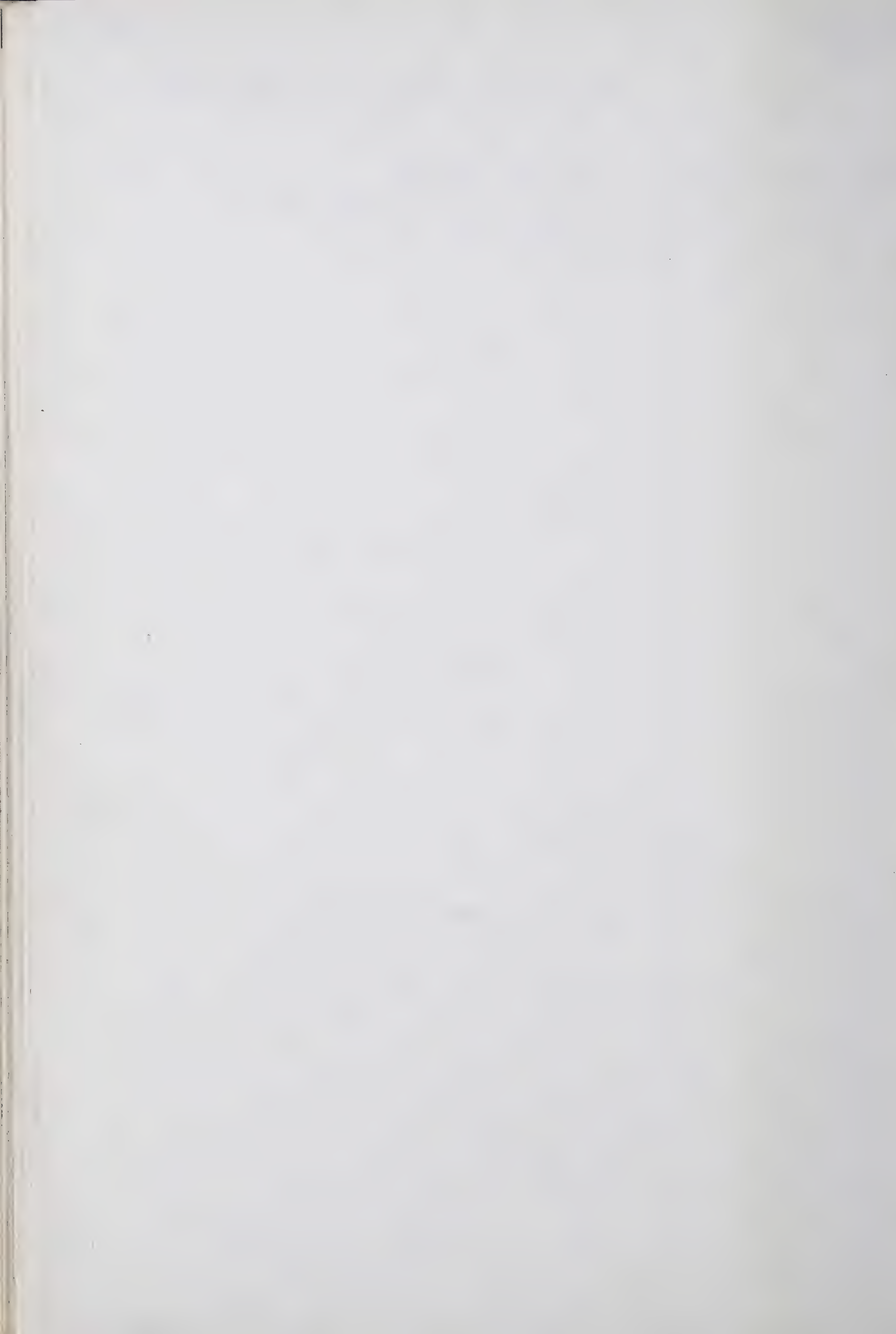
2 ♀ 10:15, 12:30 S

3 ♀ 12 N

4 ♀ "

5 ♀ "

6 ♀ "



M. Koford
1947

Myotis yumanensis (& *lucifugus*)

April 20 Zucermane, Lake Co., Calif.

46-26047 ♀ 12 N May 3 10 pm N

8 ♀ "

9 ♀ "

50 ♀ 12, 3 am N Sept. 30 '48 10 pm N

1 ♀ 12 N

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

60 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

Sept 30 '48 10 pm N

4 ♀ "

May 3 10 pm N

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

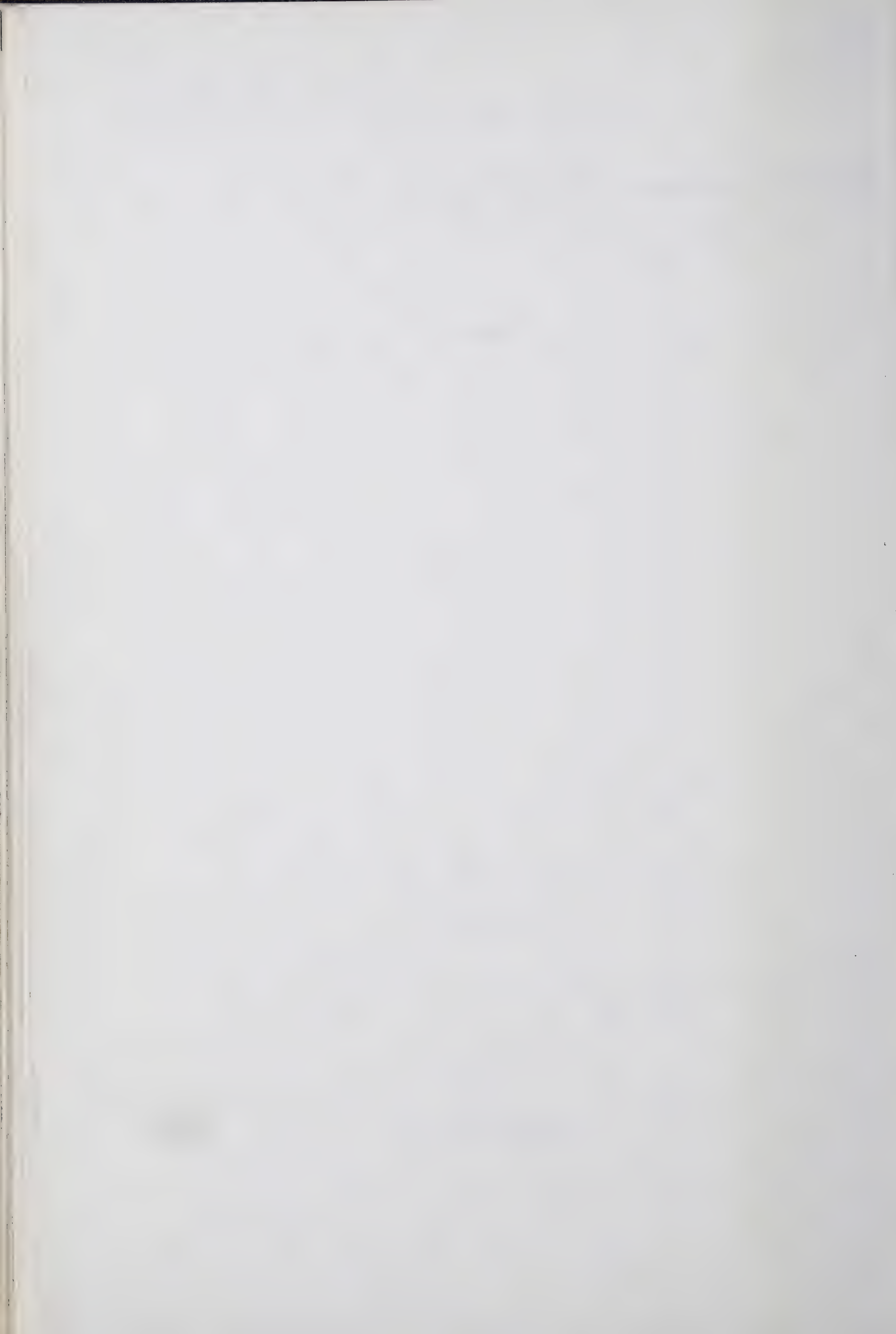
May 4 2:30 am N

70 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "



M. Koford
1947

Myotis yumanensis (& *lucifugus*)

April 20 Lucerne, Lake Co. Calif.

46-26074 ♀ 12N May 3 10pm N

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

80 ♀ 2:45 am N

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

90 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♂ "

5 ♂ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

100 ♀ "

1 ♀ "

Aug. 18 '49 9:30 pm N

Jan 24 '48 9pm S

Aug 10 '47 10pm N



M. Koford
1947

Myotis yumanensis (& *lucifugus*)

April 20 Zucerne, Lake Co., Calif.

46 - 26102 ♀ 2:45 am N

3 ♀ "

4 ♀ 2:45, 7:00 N

5 ♀ 2:45 N

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

10 ♀ "

1 ♀ "

May 7 2:30 am N

2 ♀ "

3 ♀ "

4 ♀ 2:45, 4:30 N

5 ♀ 2:45 N

Sept. 30 '48 8:30 pm S

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

20 ♀ "

1 ♀ 2:45 S

Sept. 24⁽¹⁴⁷⁾ 10 pm S Sept. 30 '48 8:30 pm S

2 ♀ "

3 ♀ 740 total

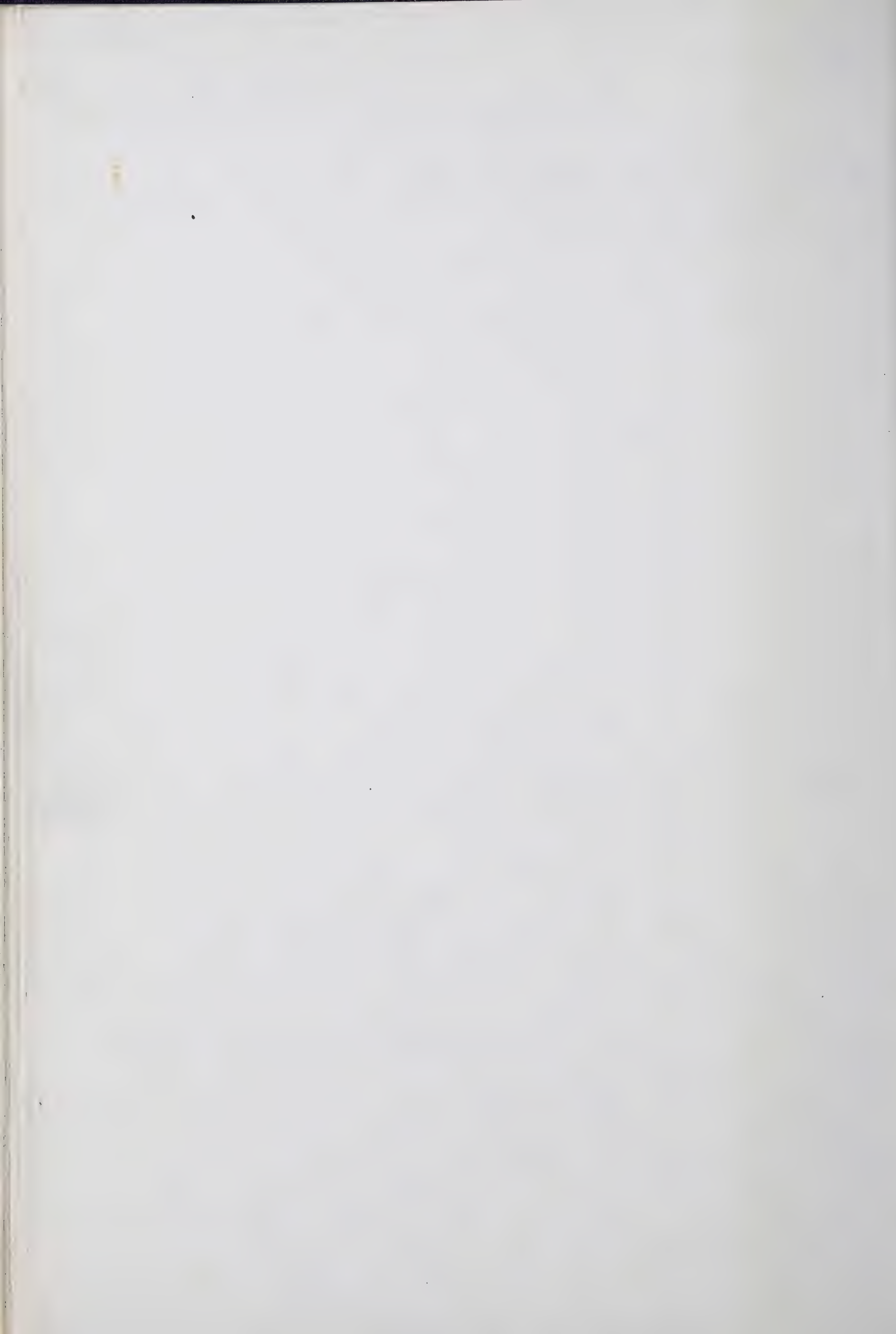
4 ♀ "

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "



M. Koford
1947

Myotis yumanensis (& *lucifugus*)

April 20 Zucerne, Lake Co., Calif.

46 - 26 129 ♀ 74 total

30 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

7 ♂ "

8 ♀ "

9 ♀ "

May 3 10pm N

1 mi. NE Sulphur Bank Mine, 10 mi. SE Zucerne, Lake Co.

41 ♂

May 3

Zucerne

307 ♀ 8:30pm N, 10 N

12 ♀ 10 N

Aug. 10 10pm N post-lact. sore-band ch.

6 ♂ 8:30, 10:00 N

9 ♀ 10 N

~~22~~ ♀

22 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

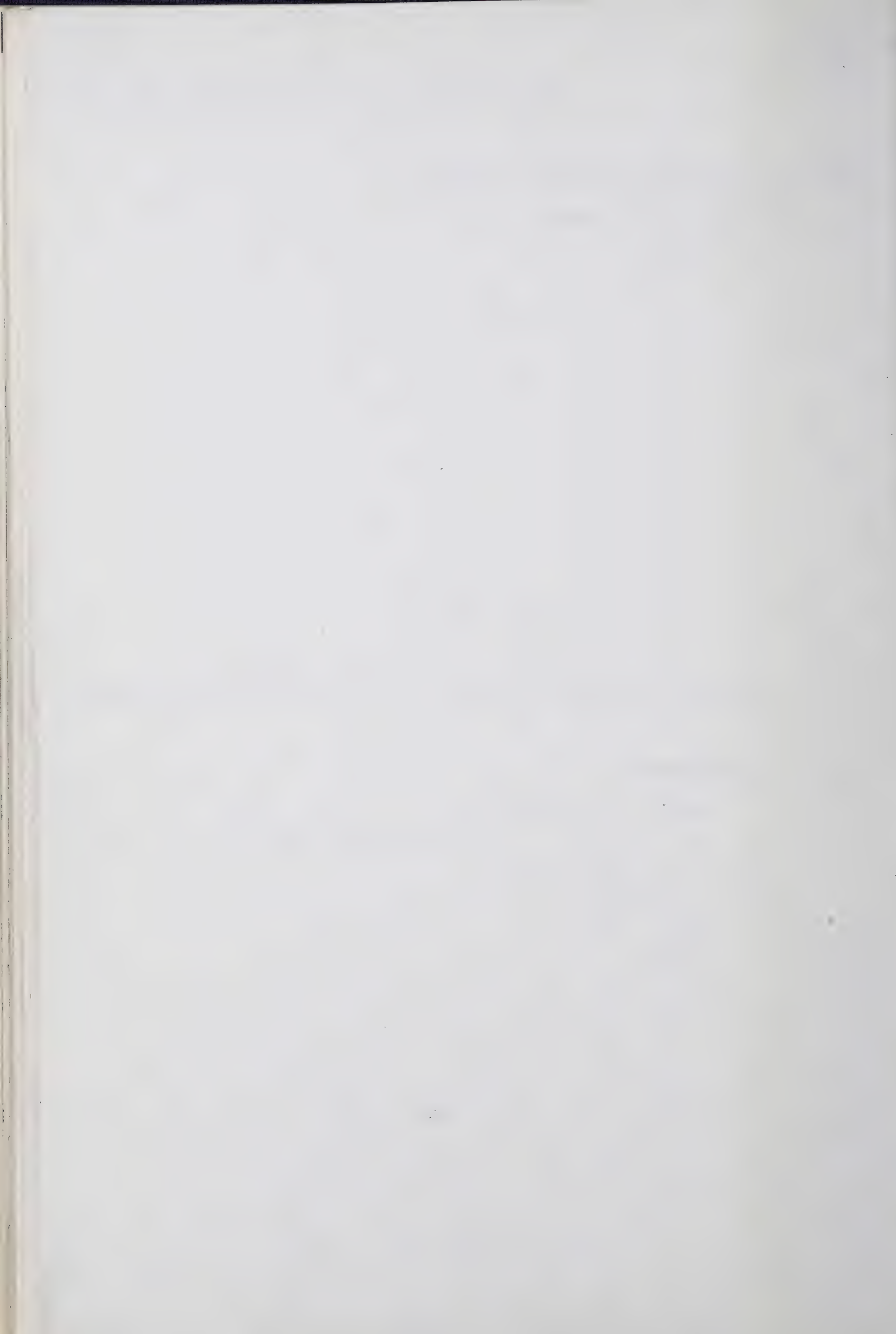
30 ♀ "

1 ♀ "

2 ♀ "

June 12 10pm N

3 ♀ "



M. Koford
1947

(35)

Myotis yumanensis (& *lucifugus*)

May 3 Zucerne, Lake Co., Calif.

46-26334 ♀ 10pm N June 13 12:30 am N May 12 '49 10pm N

5 ♀ "

6 ♀ "

8 ♀ "

9 ♀ "

40 ♀ "

1 ♀ "

Sept. 30 '48 10pm N

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ 10:30 S Feb. 12, '50 found at Hotel by Jack Sawyer, game warden

6 ♀ 10:00 N

7 ♀ "

8 ♀ "

May 12 '49 10pm N

9 ♀ "

Aug. 18 '49 9:30pm N ch-7 49-123148

50 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

June 12 10pm N

5 ♀ "

June 12 10pm N

6 ♀ "

June 12 10pm N

7 ♀ "

8 ♀ "

9 ♀ "

60 ♀ "

1 ♀ "



M. Koford
1947

Myotis yumanensis (q. luciferus)

May 3 Lucerne, Lake Co., Calif.

46-26362 ♀ 10pm N

3 ♀ "

4 ♀ "

5 ♀ 10pm, 2:30am N

6 ♀ 10pm, 2³⁰, 8am N

7 ♀ 10 N

8 ♀ "

9 ♀ "

70 ♀ "

1 ♀ "

May 12 '49 10pm N

2 ♀ 10, 2:30 N

3 ♀ 10, ~~2:30~~ N

4 ♀ 2:30am N

5 ♀ 10:00pm N

May 12 '49 10pm N

6 ♀ "

7 ♀ "

8 ♀ 10, 2:30 N

9 ♀ 10 N

June 12 10pm N

80 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ 10, 2:30 N

5 ♀ 10 N

June 12 10pm N

6 ♀ "

7 ♀ "

8 ♀ "



M. Koford
1947

Myotis yumanensis (♀ lucifugus)

May 3 Zucerne, Lake Co., Calif.

46-26389 ♀ 10:00 pm N

90 ♀ 10 pm, 2:30 am N

1 ♀ 10 pm N

2 ♀ "

3 ♀ " June 12 10 pm N

4 ♀ "

5 ♀ " May 12 '49 10 pm N

6 ♀ "

7 ♀ "

8 ♀ " June 12 10 pm N Sept. 30 '48 10 pm N May 12 '49 10 pm N

9 ♀ 10, 2:30 N

400 ♀ 10 N

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ " Aug. 10 10 pm N post-lact. Sept. 30 '48 10 pm N

7 ♀ "

8 ♀ "

9 ♀ "

10 ♀ "

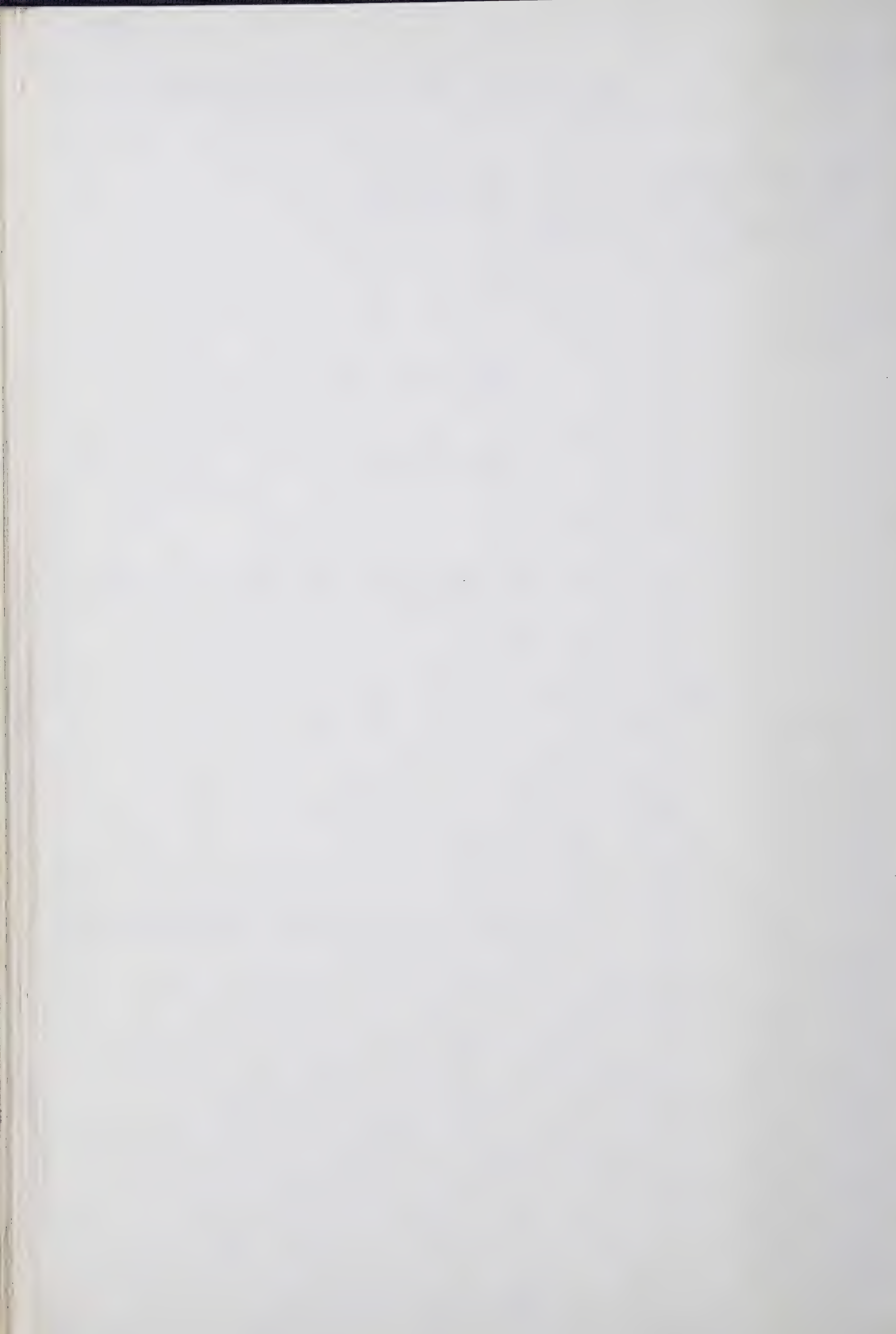
1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ " May 12 '49 11 pm S



M. Koford
1947

Myotis yumanensis (+ *lucifugus*)

May 3 Lucerne, Zake Co., Calif.

46-26416 ♀ 10:00 pm N

7 ♀ "

8 ♀ "

9 ♀ "

20 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ 2:30 am N

9 ♀ "

30 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

40 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

May 12 '49 10 pm N

May 12 '49 10 pm N

Aug. 11 1:30 am N post-lact.

June 13 1:00 am S

May 12 '49 10 pm N



M. Koford
1947

Myotis yumanensis (& *lucifugus*)

May 4 Zucerne, Lake Co., Calif.

46-26444 ♀ 2:30am N Aug. 18 '49 9:30pm N

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

50 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ 2:30am S

M. Koford
1947

Myotis yumanensis (*lucifugus*)

May 23 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

luc. 46-	26458	♀	} pants	} attic
	26459	♂		
luc.	26460	♀	bathing suit	

~~Lucerne~~ Lucerne, Lake Co.

l	26462	♀	10:00 pm N	Aug. 11 1:30 am N post-lact. May 12 '49 10 N July 14 11:00 pm N lact.
l	26463	♀	"	
l	26464	♀	"	
l	26465	♀	"	
l	26466	♂	ears + uropatagium truncated	
l	26467	♀	"	
l	26468	♀	"	May 12 '49 10 N
	26469	♀	11:00 pm S	
	26470	♀	12:00 pm N	
l?	26471	♀	"	June 12 10:00 pm N
l?	26472	♀	"	4 3:00 am N
l?	26473	♀	"	Aug. 11 1:30 am N
l?	26474	♀	"	Aug. 10 10:00 pm N post-lact.
l?	26475	♀	3:00 am N + 3:30 am N	Sept. 30, 1948 10 pm N May 12 '49 10 N
l?	26476	♀	"	4 3:30, 4:30 am N
l?	26477	♀	"	Sept. 25 3:30 am N
l?	26478	♀	"	
l	26579	♀	10:00 pm N	
	26580	♀	"	
	26581	♀	"	
l	26582	♀	"	Aug. 11 1:30 am N post-lact. Sept. 24 9:30 pm N
l	26583	♀	"	
l	26584	♀	"	

26511
26515
26527

June 12

next page



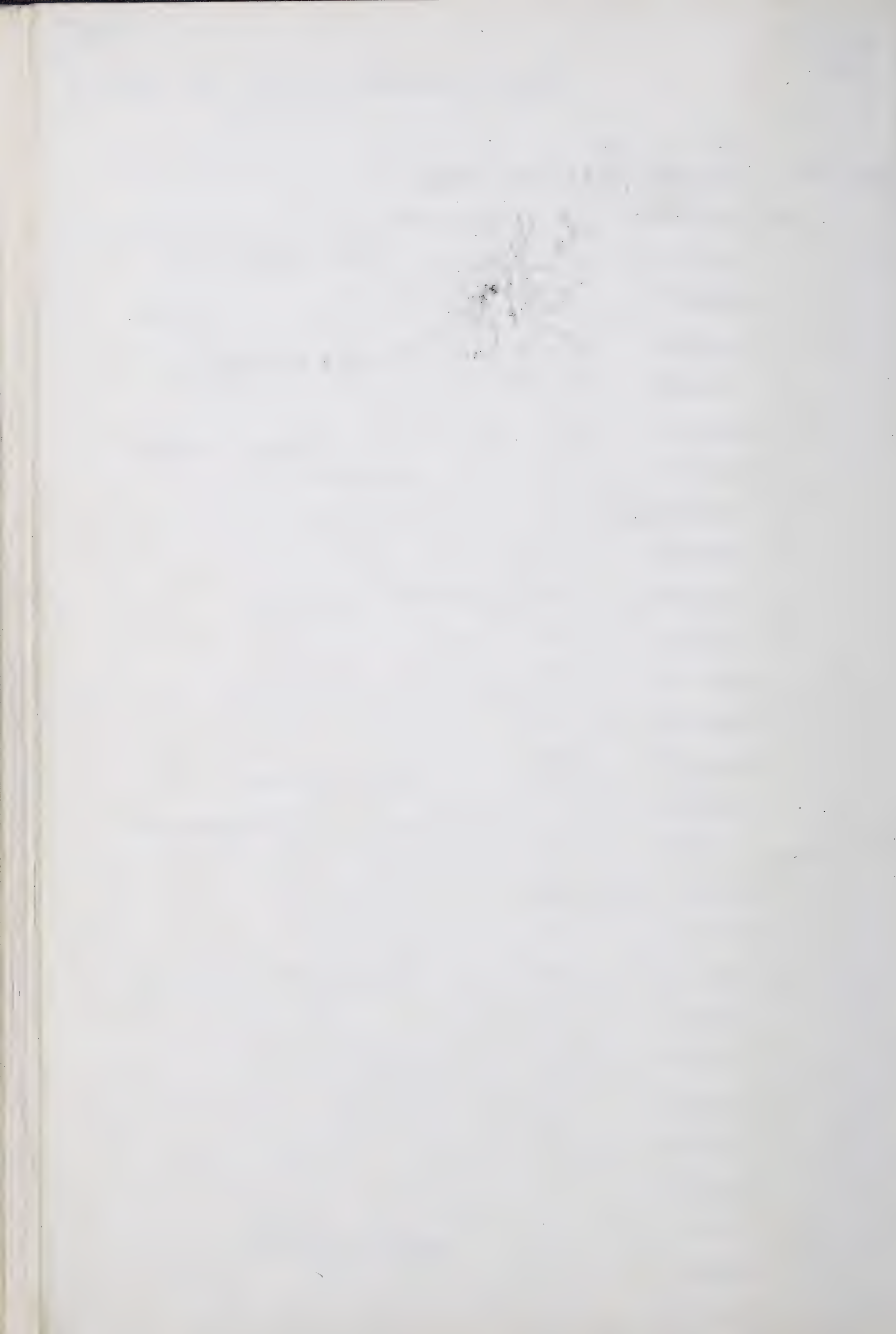
M. Koford
1947

(41)

Myotis yumanensis (+ *lucifugus*)

June 12 Zucerne, Lake Co., Calif.

46-26585	♀	10:00pm N	
26586	♂	"	July 14 9:00pm N; Aug. 10 10:00pm N; Sept. 24 9:30pm N
26587	♀	"	
26588	♀	"	
26589	♂	"	July 15 2:00am N
26590	♀	"	
26591	♀	"	Aug. 11 1:30am N + 1:00am S
26592	♀	"	+ 12:30am N
26593	♀	"	
26594	♂	12:30am N	
26595	♂	"	
26596	♀	"	
26597	♀?	"	
26598	♀?	"	
26599	♂	"	Sept. 25 4:00am S by.
26600	♀	"	Aug. 11 1:30am N post-lact.
26515	♀	"	
26511	♀	"	
26527	♀	"	May 7, 1950 10pm N
26601	♀	"	
26602	♀	"	
26603	♀	"	
26604	♂	"	
26605	♂	"	
26606	♀	"	
26607	♀	"	May 12 '49 11 S
26608	♀	"	



M. Koford
1947

Myotis yumanensis (*lucifugus*)

June 13 Lucerne, Lake Co., Calif.

46-26609 ♀ 12:30 am N

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

26610 ♂

26611 ♂

July 14

Lucerne

Sept. 25 1:30 am N

26613 imm ♀ 9:00 pm N + 11:00 pm S

26614 imm ♂ "

26615 ad ♀ " Sept. 30, 1948 10 pm N; May 12 '49 10 N

26617 ad ♀ 9:00 pm S May 12 '49 11 S

26620 ad ♀ 11:00 pm N

26621 ad ♀ "

26622 ad ♂ " holes in wing & tail

26623 imm ♀ "

~~26624 imm ♂ 11:00 pm S~~

26625 ad ♀ 2:00 am N

26626 ad ♂ "

26790
see 26901

Aug. 10

~~26806~~
~~26627~~ 1 mi. NE Sulphur Bank Mine

26806 ♀

Lucerne

26807 ♀ 7:45 pm N

26808 ♂ 7:45 pm S

26809 post-lact. ♀ 10:00 pm N

26810 " ♀ "

26811 " ♀ "

26812 ad? ♀ " 4:30 am N

26814 post-lact. ♀ "

26815 " ♀ "

M. Koford
1947

Myotis yumanensis (s. *lucifugus*)

Aug. 10 Lucerne, Lake Co., Calif.

46-26816 ad ♂ 10:00pm N

26817 post-lact. ♀ "

26818 " ♀ "

26820 ad ♂ 10:30pm S

Nov 13, 1948 9:20 S, 11:30 S

26821 ad ♂ 1:30am N

26824 post-lact. ♀ "

26825 im ♂ "

26826 post-lact. ♀ "

May 12 '49 10N

26827 " ♀ "

May 12 '49 10N

26828 " ♀ "

26830 ad ♂ "

26831 post-lact. ♀ "

May 12 '49 10N

26833 " ♀ "

Sept. 24 9:30pm N

26837 " ♀ "

26838 ad? ♀ "

26839 imm? ♀ "

26843 ad ♂ 2:30am S

26845 imm ♀ "

26846 imm ♀ "

May 12 '49 11 S band changed

26847 imm. ♂ "

Aug. 20 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.

26848 ad ♀

26849 ad ♀

26850 ad ♀

Aug. 25 Berkeley, Alameda Co., Calif.

26851 ad ♀

26852 ad ♀

M. Koford
1947

Myotis yumanensis (*r. lucifugus*)

Aug. 25 Berkeley, Alameda Co., Calif.

#6-26853 ad ♀

26854 ad ♀

26855 imm ♀

Sept. 24 Zucerman, Lake Co., Calif.

26865 br. ♂ 6:30 pm N

26866 ♀ 6:30 pm S

26867 ♀ 9:30, 11:00 pm N Sept. 30, 1948 10:30 pm S;
May 12 '49 10N

26868 ♀ 9:30 pm N

26869 ♀ "

26870 ♀ "

26871 ♀ "

26873 ♀ "

26874 ♀ " + 11:00 pm N

26875 ♀ "

26876 non-br. ♂ "

26878 br. ♂ 11:00 pm N

26880 ♀ "

26882 ♂ 11:30 pm S Sept. 30, 1948 8:30 pm S

l 26884 ♂ "

May 12 '49 10N band changed

26885 ♀ "

26887 ♀ 1:30 am N Sept. 30, 1948 10:00 pm N;
May 12 '49 10N

l 26888 br. ♂ "

26889 br. ♂ "

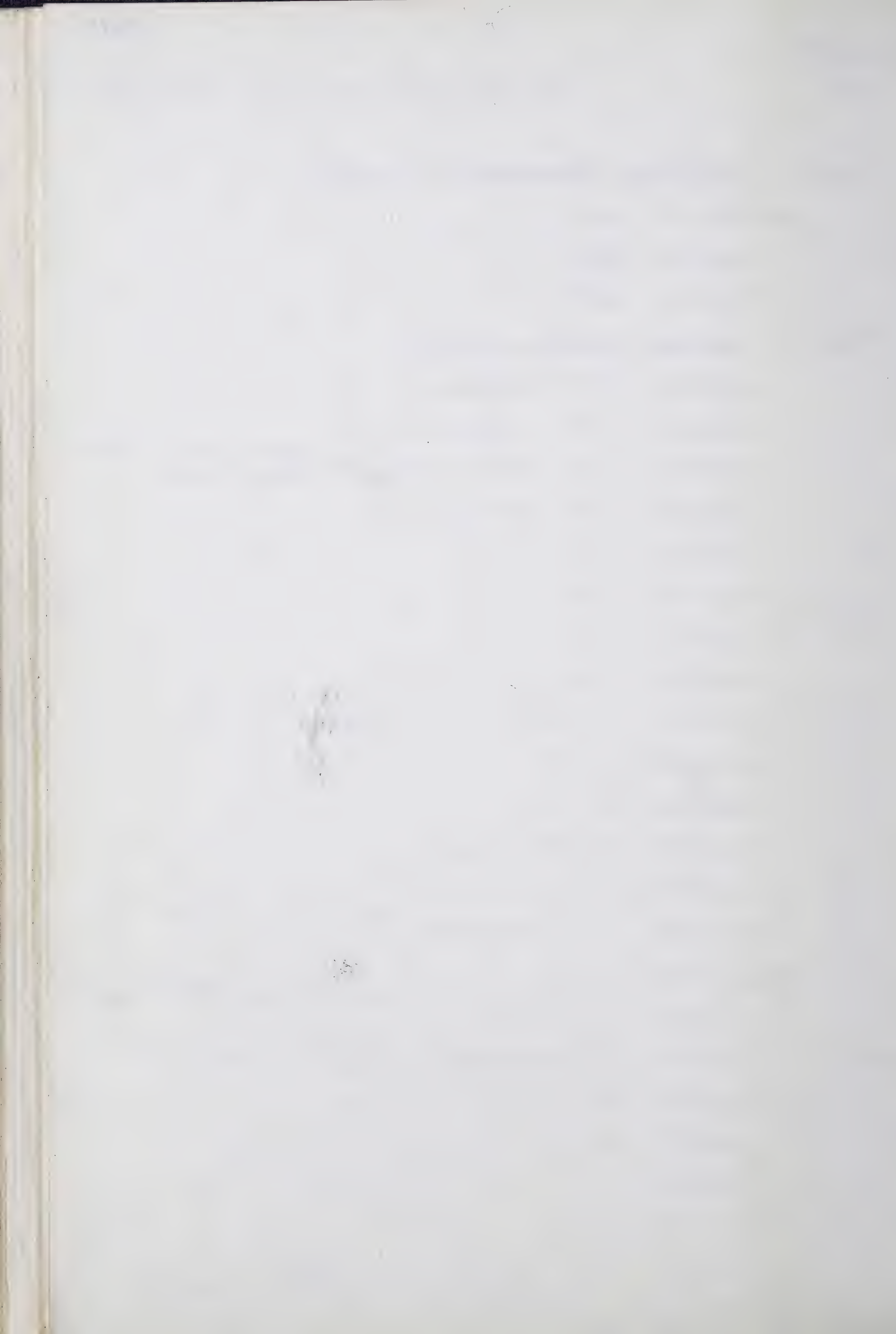
26890 ♂ "

l 26892 br. ♂ "

26893 br. ♂ 2:00 am S & 4:00 am S

l? 26894 ♀ 3:30 am N May 12 '49 10N

l? 26895 br. ♂ "



m. Koford
1948

Myotis yumanensis (*lucifugus*)

Jan. 25 Lucerne, Lake Co., Calif.

46-26898 ♂ 5:45 pm S

26900 ♂ 8:15 pm N

26901

♂ 8:45 pm S (kept)

escaped at Berkeley
Jan. 28 with # 26790 Leg

Feb. 13

26902 ♂ 5:30 pm S

26903 ♂ 8:15 pm N

26904 ♂ " 11:00 pm N.

26905 ♂ "

26906 ♂ 8:30 pm S

26907 ♂ "

26908 ♀ "

26910

♂ "

Nov. 23 9:20 S

26911

♂ " 11:00 pm N.

26913

♂ 11:00 pm N

26914

♂ "

26915

♂ "

26916

♂ 11:30 pm S

26917

♂ 2:15 am N

26918

♂ 2:30 am S

26919

♂ "

26920

♂ "

Mar. 5

26925

♂ 8:30 pm S

26926

♂ 10:00 pm S

26927

♂ "

Mar. 6

26928

♂ 1:00 am N

26929

♂ 9:30 am N

26930

♂ "

26931

♂ "



M. Koford
1948

Myotis yumanensis (4 lucifugus)

Sept. 30 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

46- 26987 ♀

26988 ♂

26989 ♂

26990 ♂

Lucerne, Clear Lake, Lake Co., Calif.

26991 ♀ 6 pm S

26992 ♀ lact. 10 pm N

26993 ♀ "

26994 ♀ "

26995 ♂ 10:30 S

26996 ♀ "

26997 ♀ "

26998 ♀ " May 12 '49 10 N

26999 ♀ " May 12 '49 11 S

27000 ♀ "

Oct. 20 1.3 mi. SE Inverness, Marin Co. 47-253 ♀ 254 ♂ 255 ♀

Nov. 23 Lucerne, Lake Co. 47-259 ♂ 7:30 pm N, 9 N

260 ♂ 7:30 pm S, 9:20 S

1 ♂ " 9:20 S, 11:30 S

2 ♂ 9:00 N

3 ♂ "

4 ♂ "

5 ♂ "

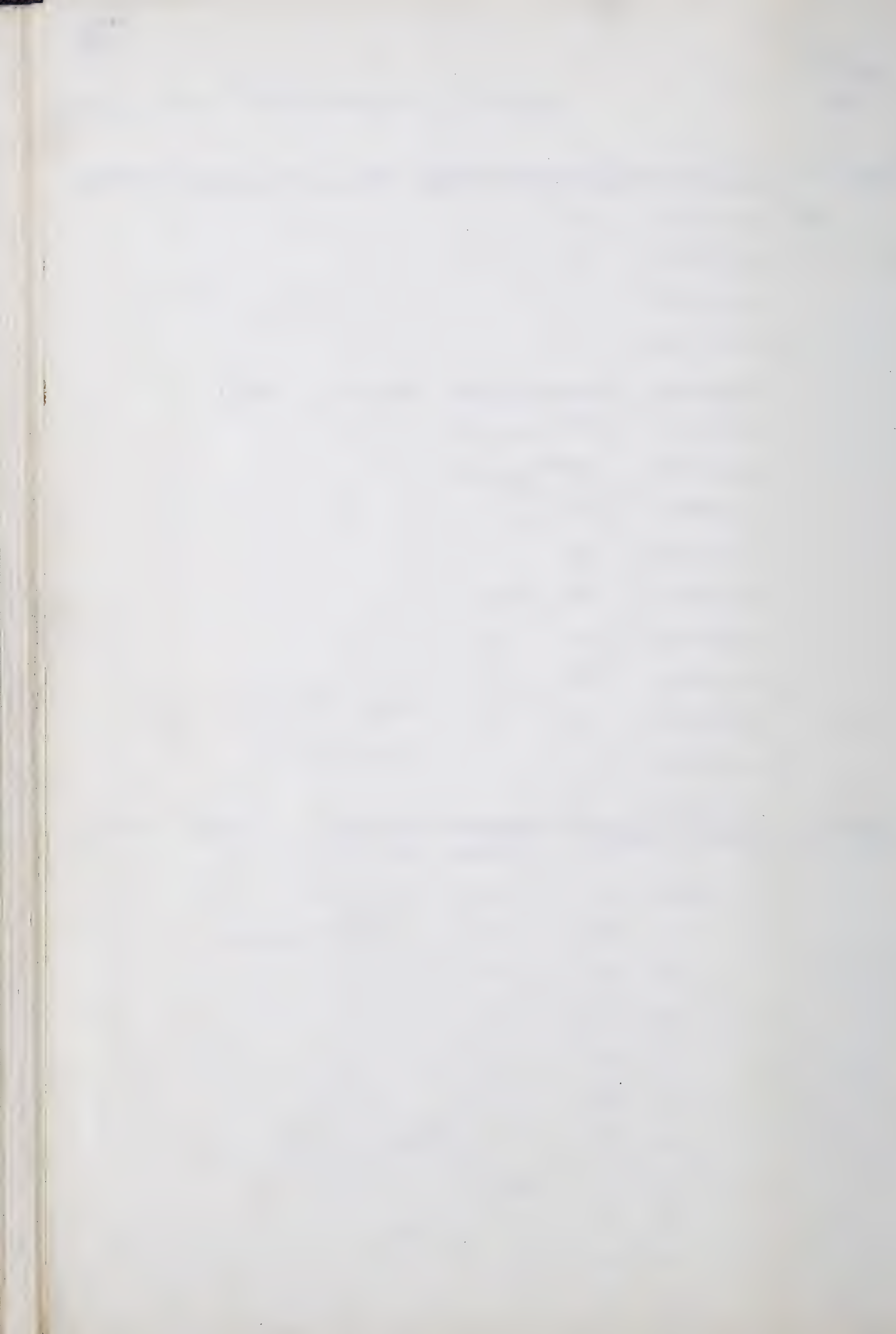
6 ♂ " holes in membrane, 11:30 N

7 ♂ 9:20 S

8 ♂ " , 11:30 S

9 ♂ "

20 ♂ "



M. Koford
1948-9

Myotis yumanensis (or *lucifugus*)

Nov. 23 Lucerne, Clear Lake, Lake Co., Calif.

47-271 ♂ 9:20 pm S, 8:00 am N

2 ♂ 11:30 N

3 ♂ "

4 ♂ "

May 12 '49 12:30 S

5 ♂ 11:30 S

6 ♂ "

7 ♂ "

May 12 280 ♀ (changed from 46-...488)
10:00 N

1 ♀ (changed from 46-16168)
10:00 N

2 ♀ 10:00 N

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

7 ♂ "

8 ♀ "

9 ♀ "

90 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

?

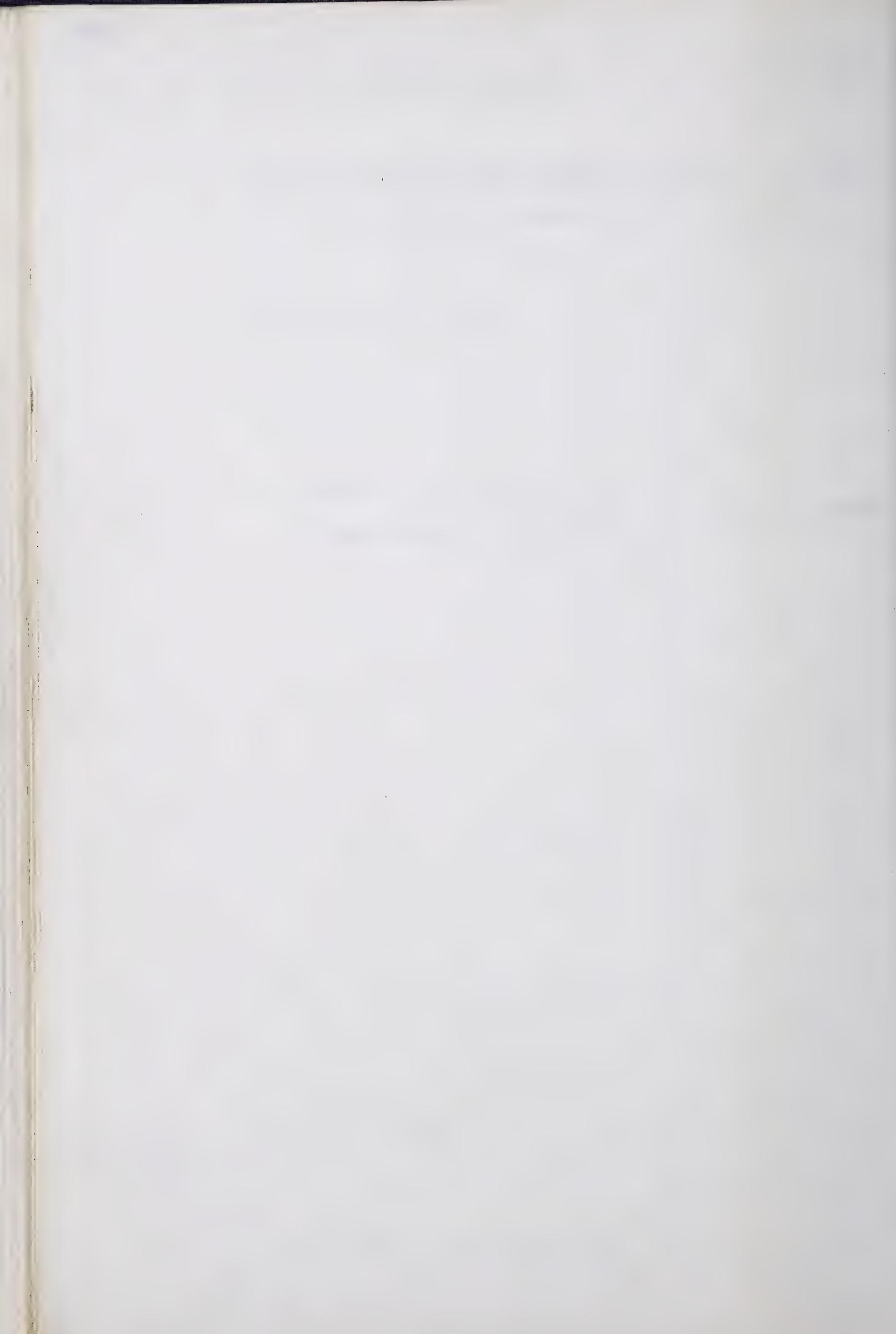
5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ (changed from 46-26398)
10:00 N

9 ♀ 10:00 N



M. Koford
1949*Myotis yumanensis* (cf. *lucifragus*)May 12 Lucerne, Lake Co., Calif.

47-	300	♀	11:00 pm S
2		♂	"
3		♀	" , 12:30 S
4		♀	" , 12:30 N
6		♀	"
7		♀	" , 12:30 S
8		♀	"
9		♂	" , 12:30 S
10		♀	"
1		♀	"
2		♀	"
3		♀	"
4		♂	"
5		♀	"
6		♀	"
7		♀	"
8		♀	12:30 N
9		♂	"
20		♂	"
1		♂	12:30 S
2		♂	"
3		♂	" Aug. 18 9:30 N
4		♀	"
5		♀	"

June 12
next
page
Aug. 181 mi. NE Sulphur Bank Mine, Lake Co.

326 ♂ attic

" 327 ♂ "

Lucerne

49-123148 ♀ 9:30 M (originally banded # 46-26350)



M. Koford
1949

Myotis yumanensis (or *lucifugus*)

June 12 Cassel, 3100', Shasta Co.

49-123227 ♀ night-roosting
in creamery

9 ♀ "

30 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♂ "

5 ♀ "

6 ♀ "

7 ♂ "

8 ♀ "

9 ♀ "

40 ♂ "

1 ♀ "

2 ♂ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

50 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

~~Oct. 5~~ Oct. 5 (??)

M. Koford
1949

(50)

Myotis yumanensis (or *lucifugus*)

June 12 Cassel, 3100', Shasta Co.

49-123255 ♀ night roosting
in creamery

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ in house
during day

60 ♀ night-roosting
in house

1 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

70 ♀ "

1 ♀ "

2 ♂ "

3 ♀ "

4 ♀ "

5 ♂ "

6 ♂ day-roosting behind
front door curtain

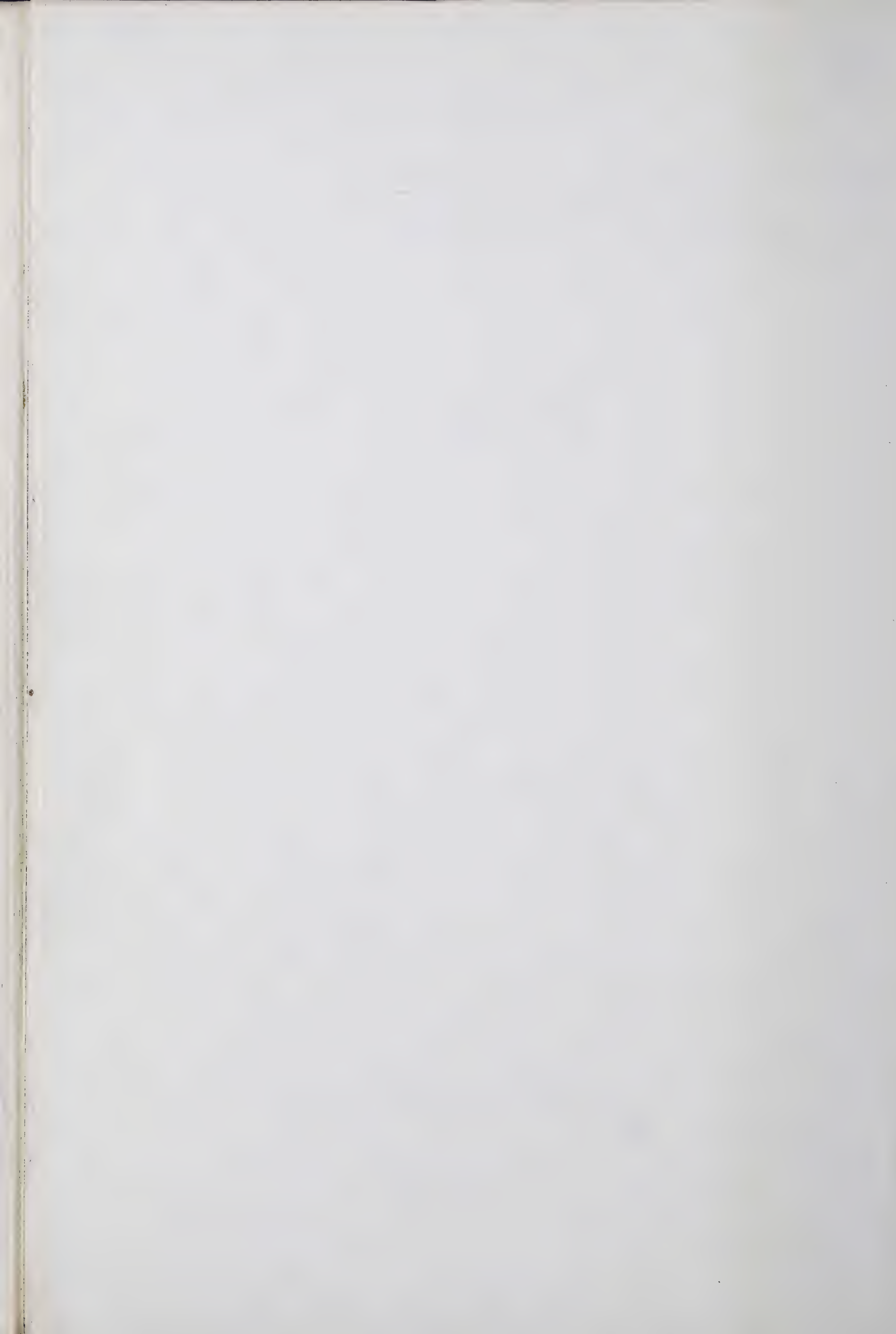
7 ♀ "

8 ♂ caught at night
in house

9 ♀ "

80 ♀ "

1 ♀ "



M. Koford
1949

Myotis yumanensis (or *lucifugus*)

June 12 Cassel, 3100', Shasta Co.

49-123282 ♀ caught at night
in house

3 ♀ "

4 ♀ "

5 ♂ "

6 ♀ "

7 ♀ "

8 ♀ "

9 ♀ "

90 ♀ "

1 ♀ "

2 ♀ "

3 ♀ "

caught Aug 31, 1952 by Fred Loring

4 ♂ "

5 ♀ "

6 ♂ "

7 ♀ " pregnant

8 ♀ "

9 ♀ "

Aug. 18 1 mi. NE Sulphur Bank Mine, Lake Co.

47 326 ♂

7

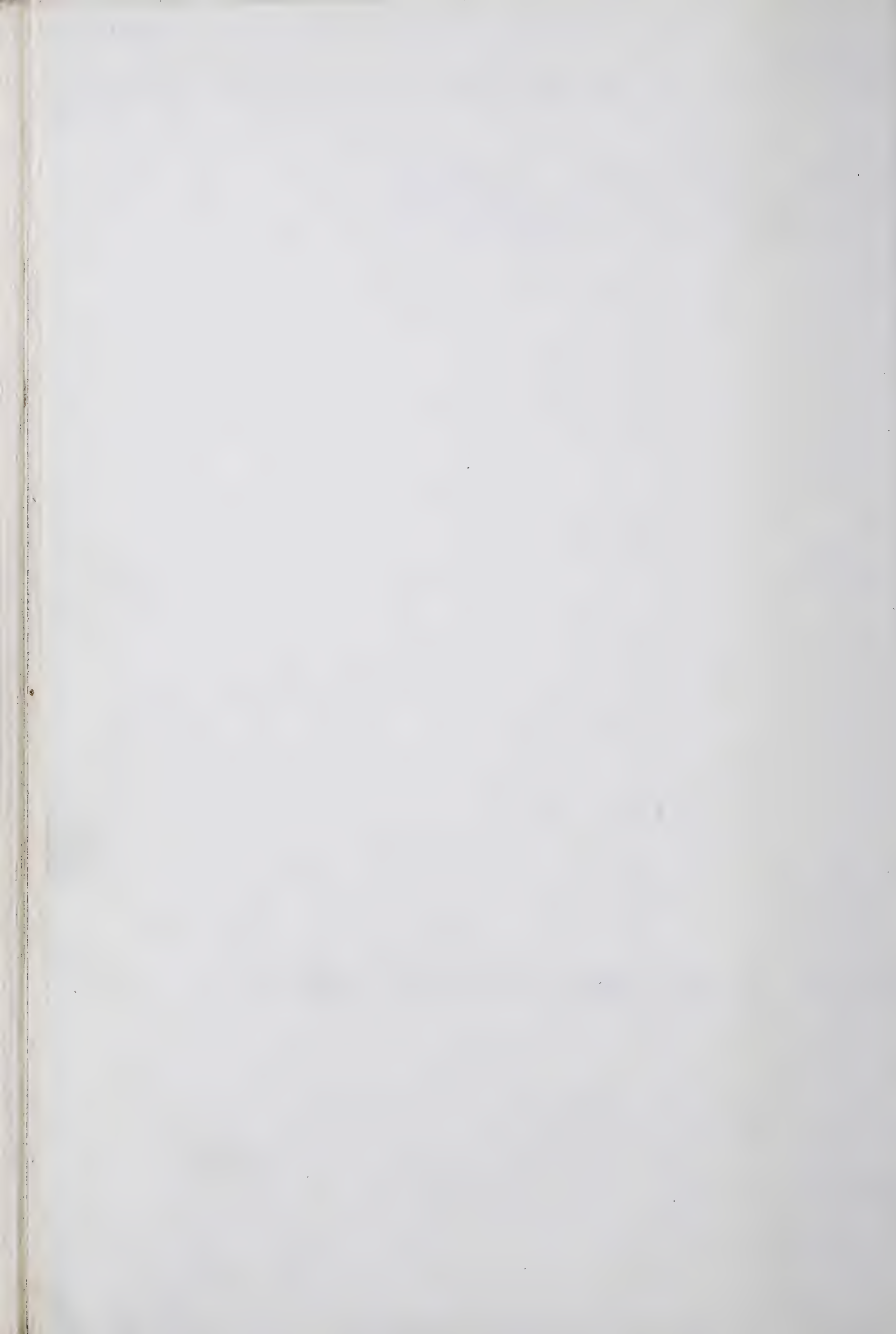
Lucerne, Lake Co.

8 ♀ 9:30 N
ch. from 46-26350

Oct. 5 Cassel, 3100', Shasta Co.

49-123168 ♀

9 ♂



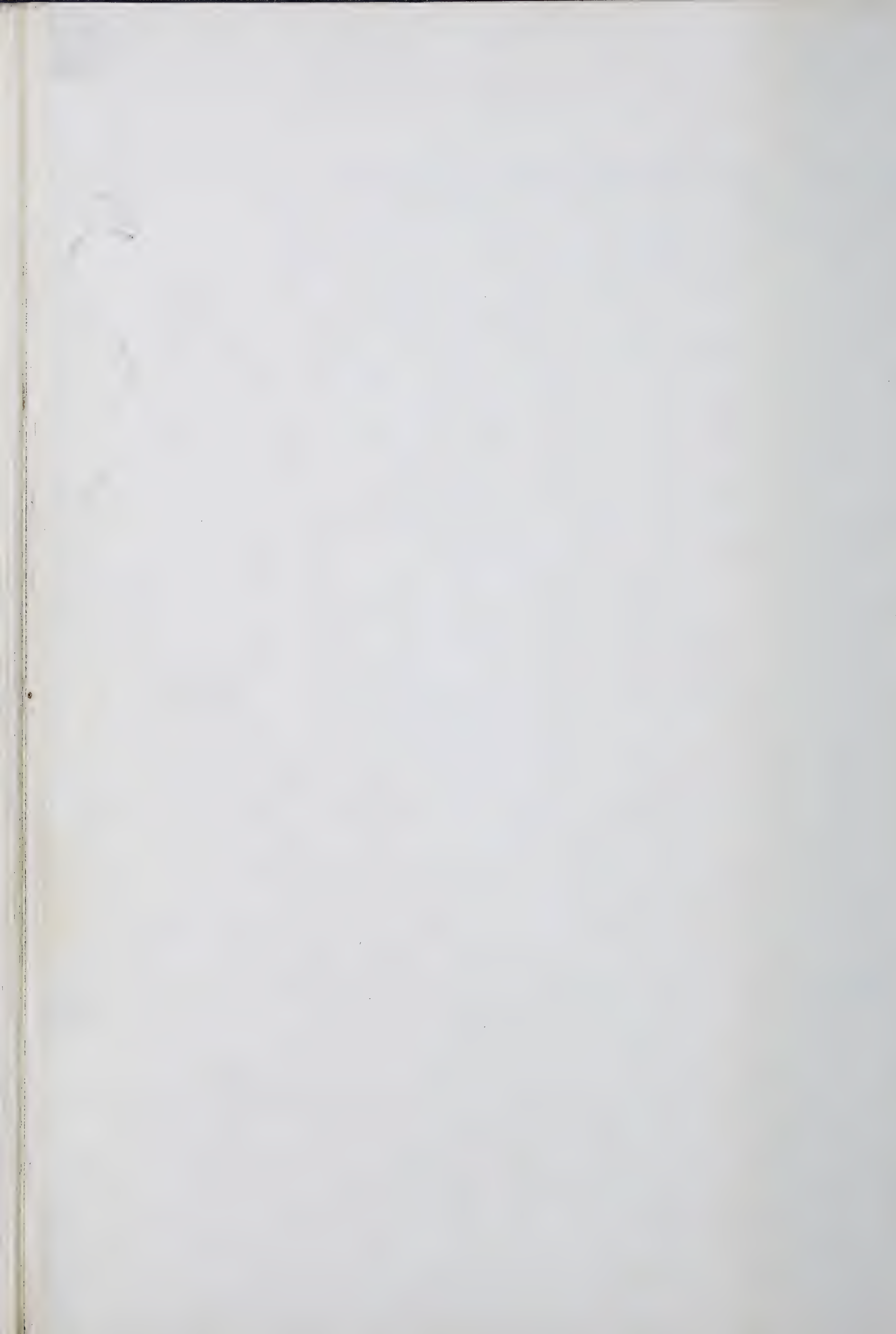
M. Koford
1950

Myotis yumanensis

March 11 1.3 mi. SE Inverness, Marin Co.

49-123534 ♀

5 ♂



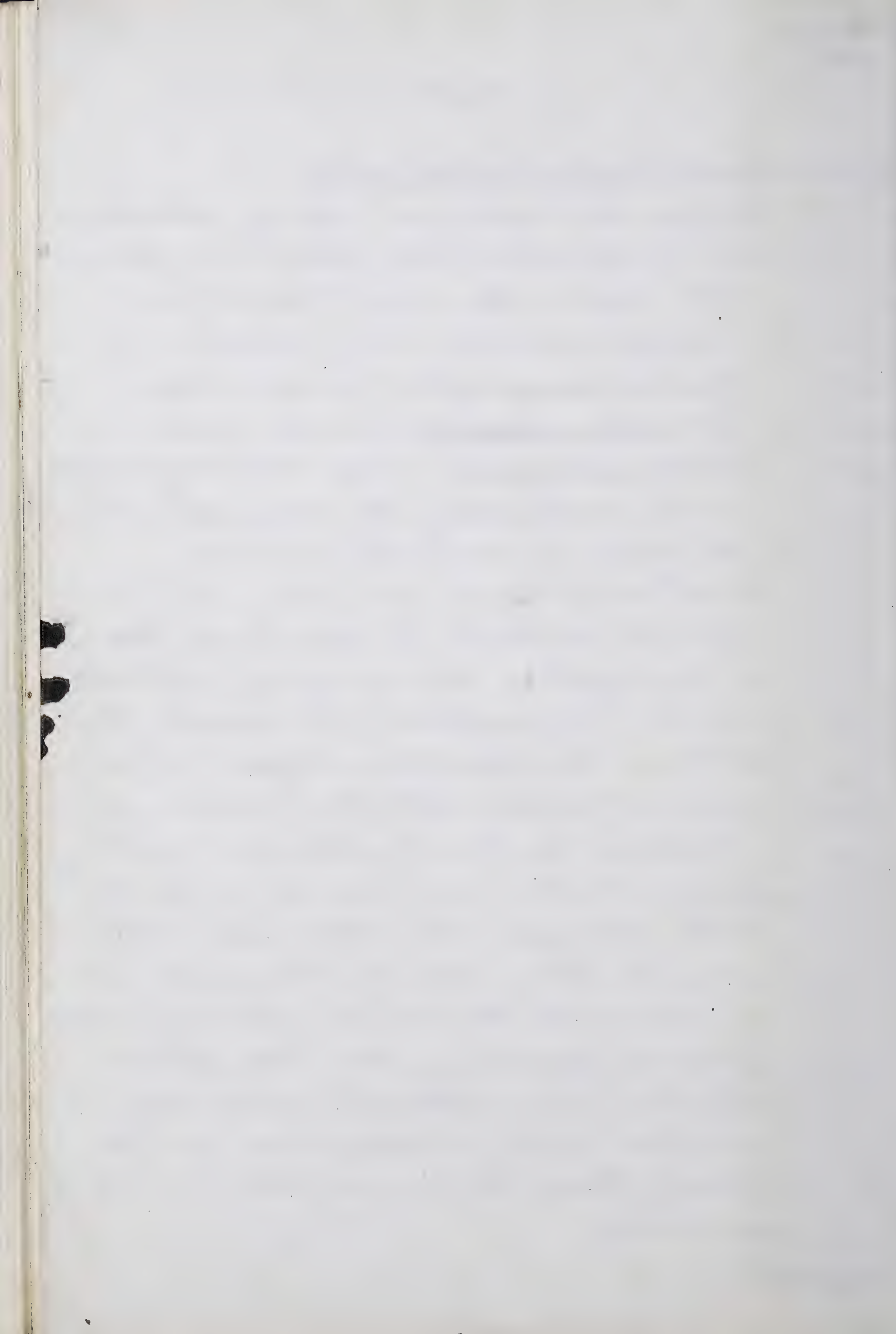
M.C. Ramage
1945

1.

Myotis yumanensis

April 20 Oxalis, Fresno Co., California

We found a colony in a large warehouse. Walt estimated that there were at least 1500 bats in the warehouse, which I consider a conservative estimate. Of these perhaps a few hundred were Tadarida mexicana and the rest Myotis yumanensis. They were congregated in the crack along the ridge pole until the crack in many places was practically solid with them. At 9:00 AM when we entered the warehouse some of the Myotis were hanging in clusters on the beam below the crack. The bats in the clusters began flying when we shot into the masses, and those in the crack started crawling along it when we probed in the crack with forceps. At about noon when we left there were no more bats out of the crack than in the morning, although it must have been very hot up there by this time, and no more big clusters had formed since we dispersed those which were there in the morning.



c. Ramage
1945

2

Myotis yumanensis

June 3

1 mi. NW Old Fort Tejon, Kern Co., Calif.

We found a colony in an old stone power house with a corrugated iron roof. They were mostly under the edges of the metal roofing along the ridge pole, and could best be collected by chasing them out and then shooting them as they hung up, although they ducked very quickly into cracks on alighting, either into seams where the sheets of metal roofing overlapped or into the space between the walls and the roof at the ends of the building where there were also many Tadarida mexicana.

June 4

Lebec, Kern Co., Calif.

In two small structures where many kinds of bats came to hang up temporarily at night, one an ice house at the corner of the hotel, and the other a dug-out used for a garbage dump up the hill in back of the hotel, we caught 11 Myotis yumanensis at 11:00 PM and 6 at 12:00 PM by sneaking up to the door and putting a screen over it and then going inside with a flashlight.

C. Ramage
1945

3

Myotis yumanensis

July 23

Tuolumne R., 900 ft., 2½ mi. E SE Jacksonville,
Tuolumne Co., Calif. (under bridge)

Two young ones were found in ^{vertical} spaces 3 to 6 inches wide, about 10" deep and 10" high, occupied mainly by young of Tadarida mexicana. Longer horizontal cracks about an inch wide and a foot deep were more numerous, and were occupied by several hundred young Tadarida. One of these cracks, somewhat apart from the main colonies of young bats, was occupied by about 10 adult Tadarida, mixed ♂'s & ♀'s. Another of these contained an about equal number of adult Myotis, none of which were captured as they flew out.

Sept. 9

3 mi. E Pescadero, San Mateo Co., Calif.

D. R. Benson found 1 ♂ yumanensis, 1 ♂ thysanodes, & 1 ♀ californicus in the attic of an abandoned house. There were many spaces on top of the beams between the supporting boards of the roof, a few of them closed at one end where the boards did not meet evenly on the two sides of the beam. It was in such closed spaces that we found the bats.



M.C. Ramage
1945

4

Myotis yumanensis

Sept. 9

Forks of Waddell Creek, 100 ft., Santa Cruz Co., Calif.
From the crack along the ridgepole of the cabin in which we stayed we collected 42 *Myotis yumanensis*.
^{17 ♂♂ 25 ♀♀} The cabin had a shake roof and was the largest of three such buildings at this spot. Pounding on the shake roof of another cabin next to this one brought out 1 *Myotis californicus*, 2 *evotis*,
[♂] 1 *thysanodes*, & 1 *yumanensis*, which Mrs. Benson knocked down as they flew about inside the cabin.

Sept. 10

Under the shakers on the roof of this second cabin we got 2 *Myotis yumanensis* and saw at least 1 *californicus* which got away.

Sept. 17

Oxalis, Fresno Co., Calif.

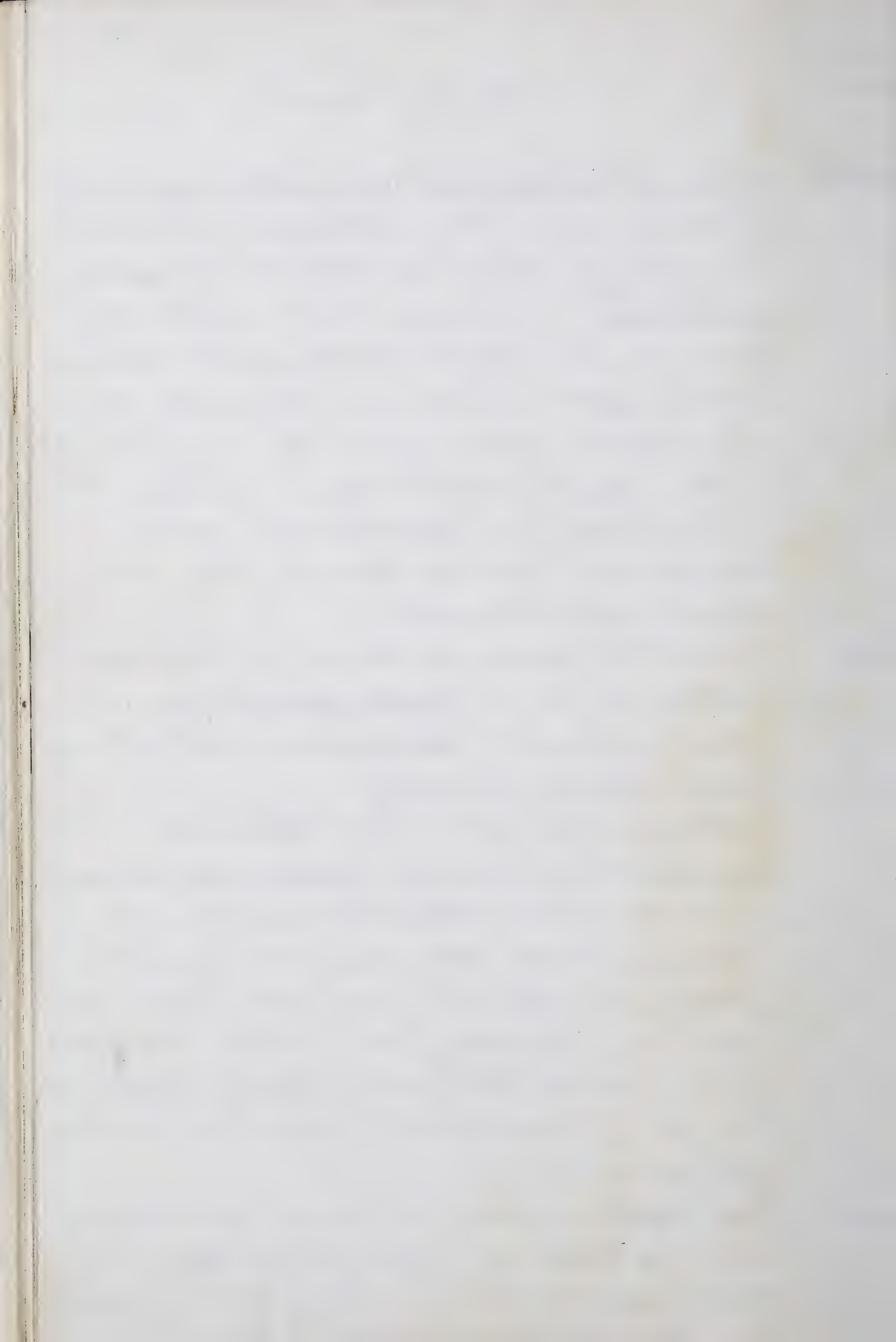
Nothing here now but *Tadarida*.

Tuolumne R., 900', 2 1/2 mi. ESE Jacksonvill, Tuolumne Co.

There were not nearly the numbers of *Tadarida* that were present on July 23, partly perhaps because there have been workmen repairing the bridge. In several of the cracks there were *Myotis yumanensis*. We got 8, and about twice this number got away.

Sept. 18

No *Myotis* under the bridge this morning. 2 in the wall of a garage nearby. The owner said there were many more a few months ago. At 9:45 p.m., 3 *m. yumanensis*



C. Ramage
1945

Myotis yumanensis

Sept. 18

Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co., Calif.

and 1 *Antrozous* in an empty 3-room house with a door to the outside ^(in each room) and several windows in each room, and a porch around the outside. Several more *Myotis* got away. 11:00 pm - 1 more,

Sept. 19

+ 1 got away. 12:30 am - 3 more. 1:30 - 1 more.

Sept. 21

Homewood, 6238', Lake Tahoe, Placer Co., Calif.

We collected ¹⁴¹ ~~143~~ + 2 *M. lucifugus* (1♂, 1?) ^(119♀♀, 20♂♂, 2??) (some of which may be

53 discarded
2 escaped

64 prep.
S.B. Benson
9403-22
9426-51
9534-48

22 prep.
W.C. Russell
9567-88

M. lucifugus) in J.P. Obexers boat house.

The bats were in a crack between two of the rafters supporting the high ceiling.

They were cold and fell to the floor when knocked out of the crack with a pole, some of them spreading their wings enough to ^{break their fall.}

Brockway, 6300', Lake Tahoe, Placer Co., Calif.

We got ¹⁵ ~~16~~ from the attic of the Hotel Kitchen. ^{(12♀♀, 3♂♂) + one *M. lucifugus* (?)}

3 discarded
12 prep.
M.D. Bryant
516-527

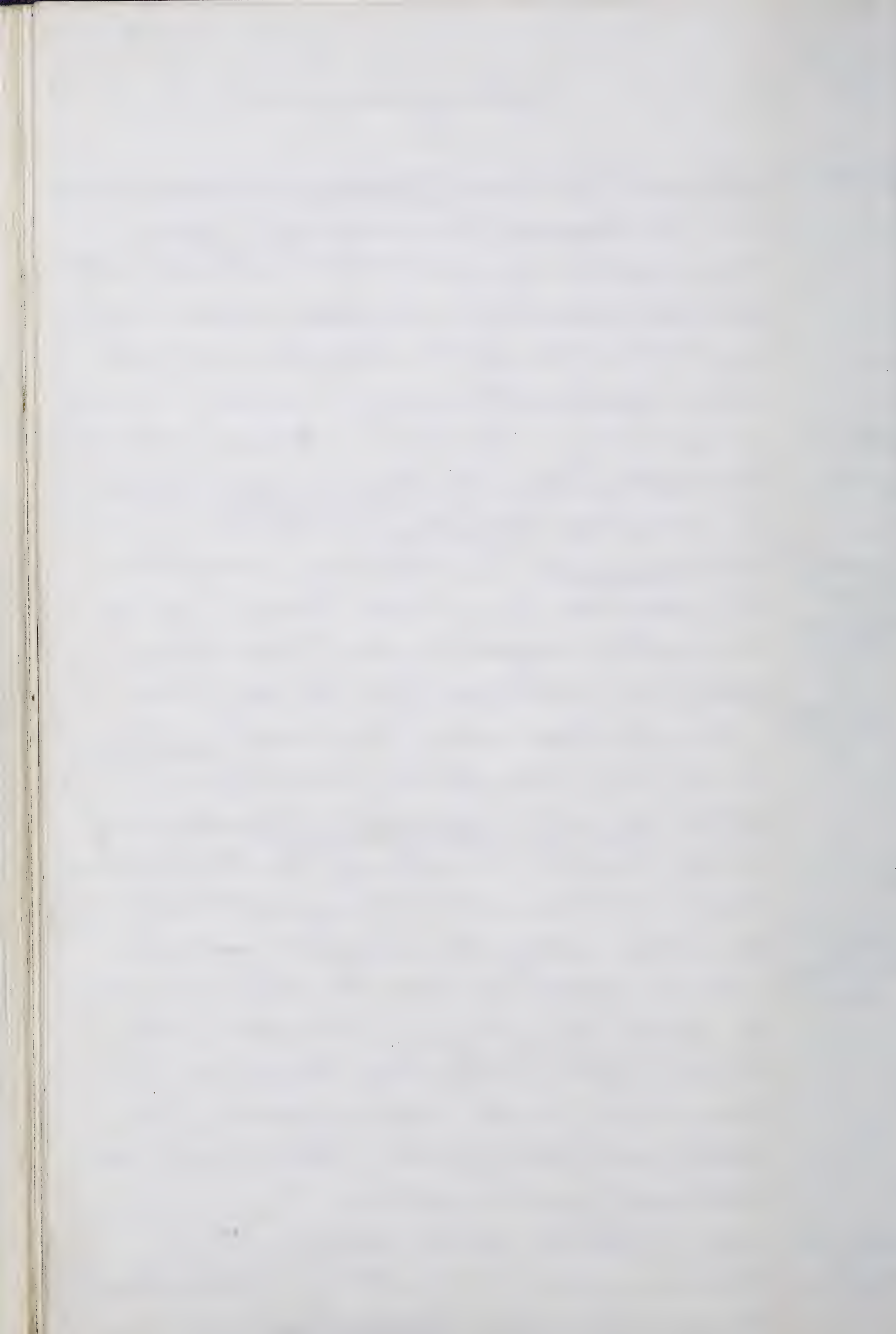
Most of them were clinging on the side of the beam along the ridgepole and some were in the crack above it. The amount of guano here and in the attic of the hotel ^(where we found no bats) proper, indicated that there had been many more. Some of those in the hotel were quite fresh. These bats were also cold and inactive.

Sept. 23

M.C.R.
269-71

1 mi. W Capay, Yolo Co., Calif.

Dr. Benson found 3 (1♂, 2♀♀) in an abandoned house, and also 1 *Corynorhinus* (♂).



M.C. Ramage
1945

Myotis yumanensis

Sept. 23

Bear Creek, 6 1/2 mi. SE Wilbur Springs, Colusa Co., Calif.
(Bridge 1537 on Highway 16)

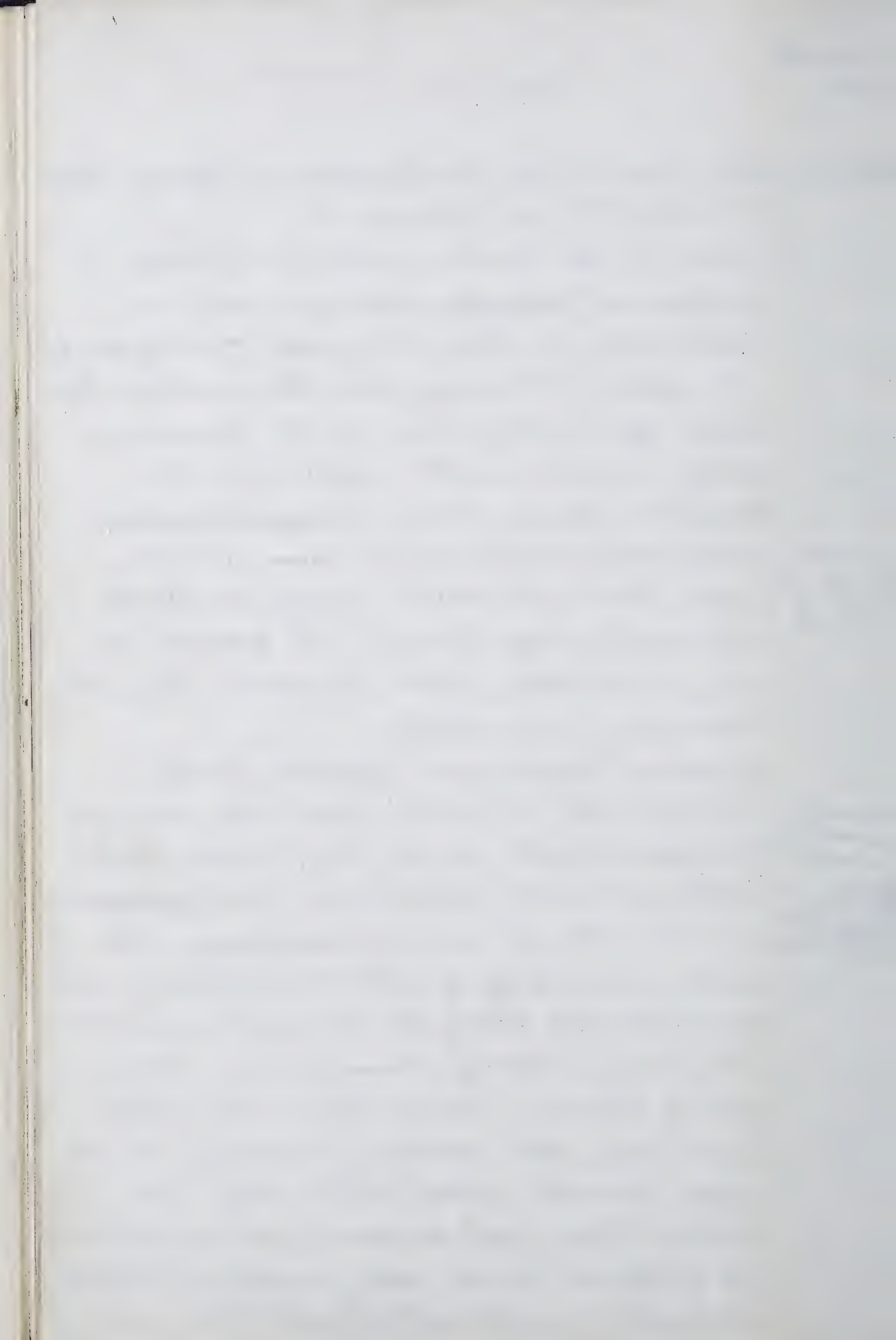
Most of the cracks under the bridge contained Tadarida mexicana and we collected 1 ♂. There were piles of droppings in spots out away from the cracks where bats apparently hung on the beams in large numbers at night. In one crack Dr. Benson found M. yumanensis and collected most of them (27 ♀♀). These bats were cold enough so that he could drop them to the ground as he pulled them from the crack. They were moulting extensively.

Lucerne, Clear Lake, Lake Co., Calif.

We collected 38 out of probably several thousand bats in the very large hotel attic. 35 (21 ♂♂, 14 ♀♀) of these were M. yumanensis, and 3 (2 ♂♂, 1 ♀) were M. lucifugus. The bats were clinging all over the ceiling, most concentrated along the ridgepole, and at this time (nearly evening) many were flying about. On the east side of the highway, just north of Lucerne, are two mine tunnels about 100 ft. long. We reached there just at dusk, put a net over the entrance to one, and caught what bats we could inside with hand-nets and

discarded 5
prep. 22
S.B. Benson
9473-94

1 discarded
1 saved alive
for Hatfield
38 prep.
S.B. Benson
9496-9531
9499-9531



N.C. Ramo
1945

Myotis yumanensis

Sept. 23

Lucerne, Clear Lake, Lake Co., Calif.

flashlights. The bats would cling to the ceiling of the cave and fly readily at our approach. The tunnel yielded 15 14

S.B. Benson
9468-72

M. lucifugus (1♂, ¹³14♀♀), 4 M. thysanodes (♀♀),
5 M. yumanensis (2♂♂, 3♀♀), and 2 Corynorhinus.^(♂♂)

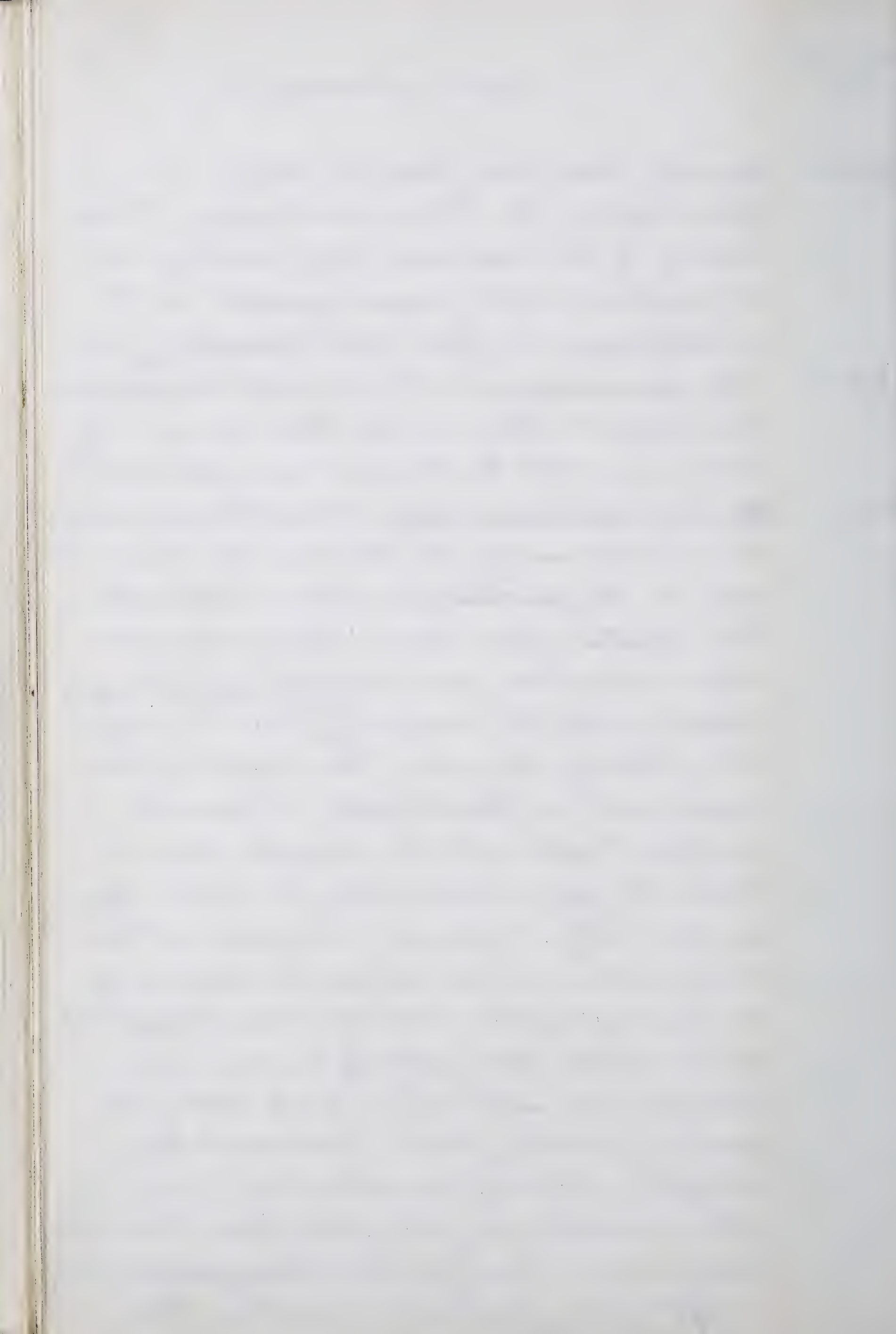
There were no bats in the other tunnel by the time we got to it, some time after dark.

Oct. 15

Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.)

In a crack under the stairs in the basement was one M. yumanensis^(♂) and one Tadarida.

The Myotis flew into an adjoining room when disturbed and crawled up into a crack under the molding^(in the corner of the room) where I caught it. Looking the rest of the length of this crack with a flashlight, I located another Myotis which escaped when I tried to get it out with forceps. Up on the roof I found 2 Myotis in the corner tiles in two adjacent corners of the east pergola. One of these disappeared while I was gone getting a wire and forceps (in spite of the fact that the opening from the front was completely stuffed with my handkerchief) and the other crawled so far back that I couldn't reach it, and then it also disappeared when I left again for about 15 minutes. This

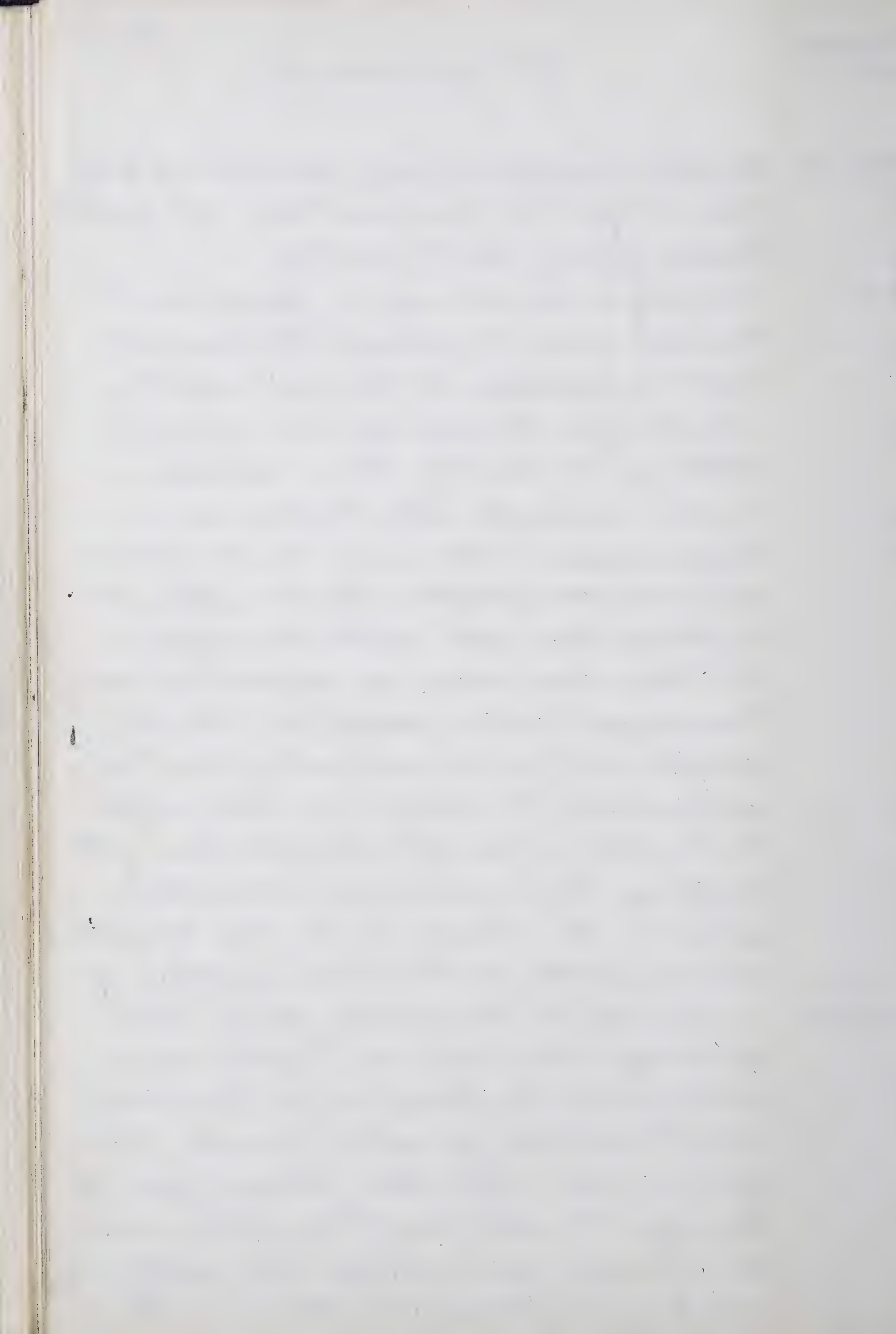


I. C. Ramage
1945

8

Myotis yumanensis

- Oct. 15 Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.) occurred just at dusk, and there were several Myotis flying about the roof.
- Oct. 16 Returning in the morning, I found one ♀ in the crack under the stairs in the basement, and no Tadarida. In the crack under the moulding in the adjoining room I found nothing. On the roof was 1 Tadarida in a corner tile on the west pergola and 2 M. yumanensis (in the same hole) in a corner tile of the east pergola. The two places where I found them last night were empty, but these two were in an adjacent corner. One escaped, but I caught the other (a ♀). I kept one ♀ alive and put up the other ♀ and also the ♂ which I got last night. The ♀ had a layer of subcutaneous fat weighing 1.5 gm., and several inactive sperm in the uterus. The ♂ had no fat and its testes contained many active sperm.
- Oct. 19 I visited the Mines Bldg. again this morning. There was one Myotis in the crack under the stairs in the basement, but it crawled up out of reach. This spot is near where some steam pipes go through the wall and the bats here are always quite active. In another crack in the basement (the one in the



n.c. Ramage
1945

9

Myotis yumanensis

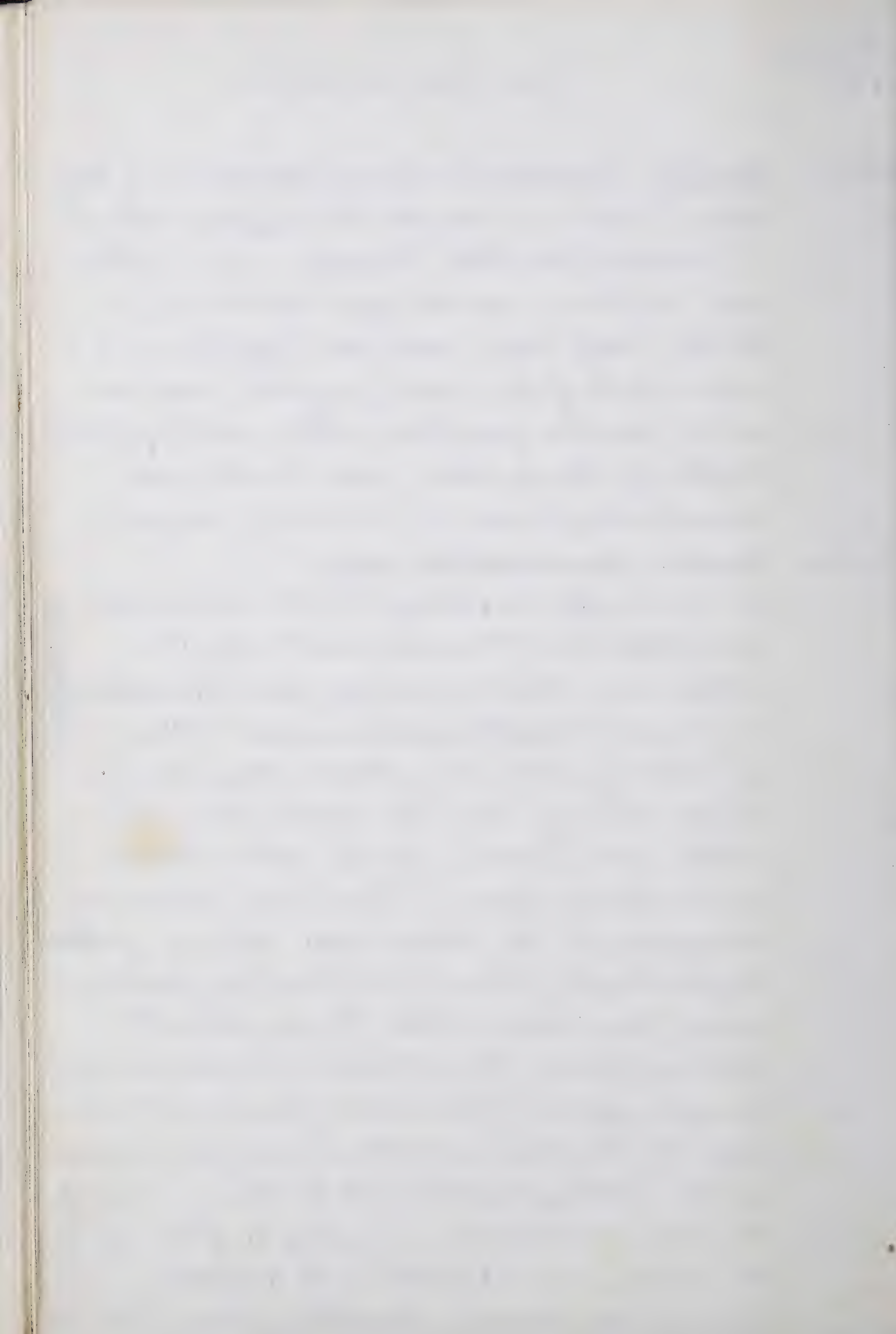
Oct. 19

Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.)
corner where I caught the Myotis Oct. 15)
I located another Myotis which flew
out before I could get a hold of it.
On the roof there was one Myotis in a
corner tile of the east pergola, and one
in a similar position on the north pergola,
both of which were far back and
crawled up out of reach of my wire.

Oct. 21

Benbow, Humboldt Co., Calif.

on a large building on the side of the
road toward the river, used by the
hotel as a stable, garage, and storehouse.
I found 5 Myotis yumanensis. The
building had no closed attic, only a
high ceiling, and the end where the
bats were had a large door which
was always open. There were also some
droppings in the other end which was
kept closed. When we entered the stable at
noon, there was a bat flying about
chasing flies. We watched it catch two flies,
hanging up on a beam each time to eat the
fly. All the while, we were swinging our jackets
at the bat trying to knock it down, whenever
it flew close enough. Finally it flew up to
the ceiling and crawled into a space
between two beams. Squeaking from the



n.c. Ramage
1945

10

Myotis yumanensis

Oct. 21

Benbow, Humboldt Co., Calif.

crack revealed the presence of more bats. There proved to be 5 (2♀♀, 3♂♂), all quite cold and inactive except for the one which had just been flying. All except one (#279) were quite fat.

Oct. 27

Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.)

Visited the building in the morning, finding nothing in any of the basement cracks, & seeing 1 Myotis in a corner tile of the north pergola and 2 Myotis both in the same tile ~~in~~ the east pergola, all of which crawled back completely out of sight and reach. I also entered these ventilators from the inside but found no bat sign.

Nov. 28

Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.)

This morning I searched all the cracks I know of in the basement and stairway and the tiles in the 3 pergolas, finding only one Myotis in the crack under the stairway in the basement (a very warm spot where steam pipes go through). It was active and I didn't catch it. In the tiles were several Tadarida and under the drain around the court were several hundreds of them - all very cold and inactive.



Myotis yumanensis

Dec. 1 Lucerne, Clear Lake, Lake Co., Calif.

See Journal for Dec. 1 & 2.

Dec. 2 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In one abandoned house Jo Overleese found 1 ♂ in an old bathing suit hanging in the attic. Dr. Benson found 1 ♂ with an Antrozous (♂) and 2 Eptesicus (♀♀) under a piece of wallpaper. We found 3 more ♂♂ under wallpaper in other parts of the house. All were cold and inactive. We also got 1 Corynorhinus (♂) from this house. In another abandoned house Dr. Benson found 1 ♂ under wallpaper. Under wallpaper in the same house we got 4 Eptesicus (2 ♂♂, 2 ♀♀) and 2 M. californicus (♀♀) — all bats cold & inactive.

Feb. 14 Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.)

No M. yumanensis found in three thorough searches in the last three weeks.

April 10 A thorough search (all the spots in the building where we have found bats) revealed 1 ♀ M. yumanensis in the crack at the head of the second-floor stairway. ^{kept alive}

May 1 There were 3 Myotis together in the crack in the corner under the stairway in the basement (the one near the steam pipe). They were very active and 2 flew as soon as they were disturbed, but Krutzsch got 1 ♀ which he put up.

M.C. Ramag
1946

12

Myotis yumanensis

July 15

Forks of Macdell Creek, Santa Cruz Co., Calif.

From the cabin where we collected the large number of Myotis yumanensis on Sept. 9, 1945, we got 2 adult ?? (lactating) and 7 young (6 ♂, 1 ♀) from under the boards along the ridgepole on the roof just as before.

Several more bats (probably adult M. yumanensis) escaped, but there were relatively few bats present compared to last year. One, and probably several, Eptesicus fuscus were present on the same roof. I banded and released the Myotis yumanensis with the exception of one young one which was killed in capturing it.

July 16

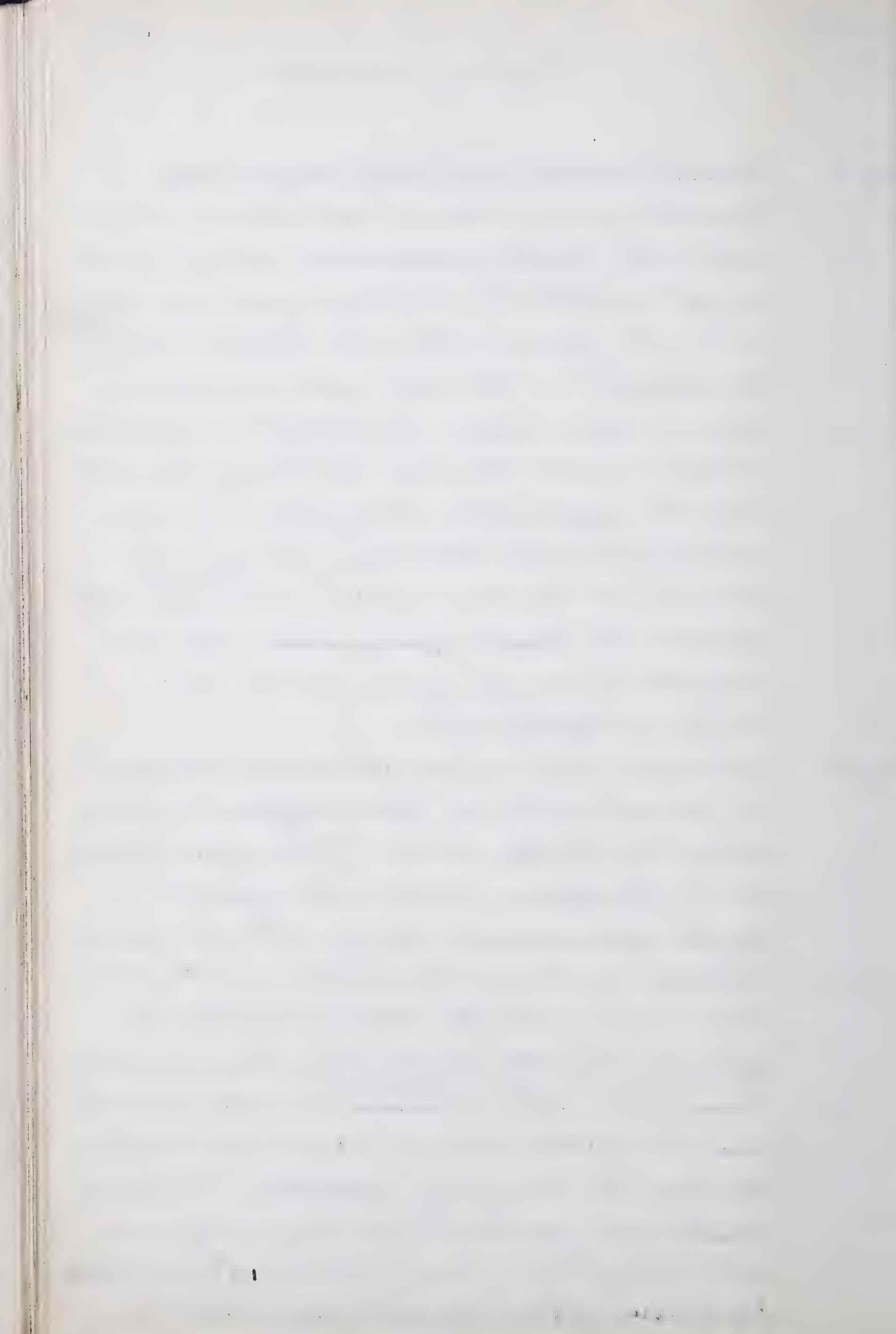
Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.

We found bats in four different cracks under the bridge, most of them young Tadarida.

One of the spaces contained 1 young ♂ Myotis yumanensis along with 100 young Tadarida, and another of them (the same one which held the adult Myotis on

July 23, 1945) contained only M. yumanensis. The other two were all Tadarida.

These flew when disturbed and we only caught about half of them. In striking contrast to the young Tadarida, the young Myotis were quite able to fly. We were able to capture a few of those which flew by chasing them to where they lit on



M.C. Ramage
1946

13

Myotis yumanensis

July 16

Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.
the ground or in trees or waiting for them to swim to shore when they lit on the water. Of those captured, the count was 11 adult ♀♀, 10 young ♀♀ (1 dead), and 8 ~~adult~~ ^{young} ♂♂. After banding them, we attempted to return them to the same crack but almost all of them flew out immediately. There were many *Myotis* flying in the ^{early} evening and we still continued to see an occasional individual after dark when most of the bats flying were Tadarida.

July 29

(See
Sept. 21,
1945)

Brockway, 6300', Lake Tahoe, Placer Co., Calif.
At 9:00 a.m. there were hundreds of bats out in the attic of the hotel where they could be plucked from the ceiling along the ridgepole in hand fulls. We could see and hear many more out of reach in the roof. In the first lot we collected ^{about 400} 371 bats, but this number represented only a fraction of what we might have gotten. We saved a few for specimens and banded 371. No attempt was made to segregate *Myotis yumanensis* from *lucifugus* but there were probably several times as many of the former as the latter. Of these 371 bats, 220 appeared to be adult ♀♀. However,

M.C. Ramage
1946

14

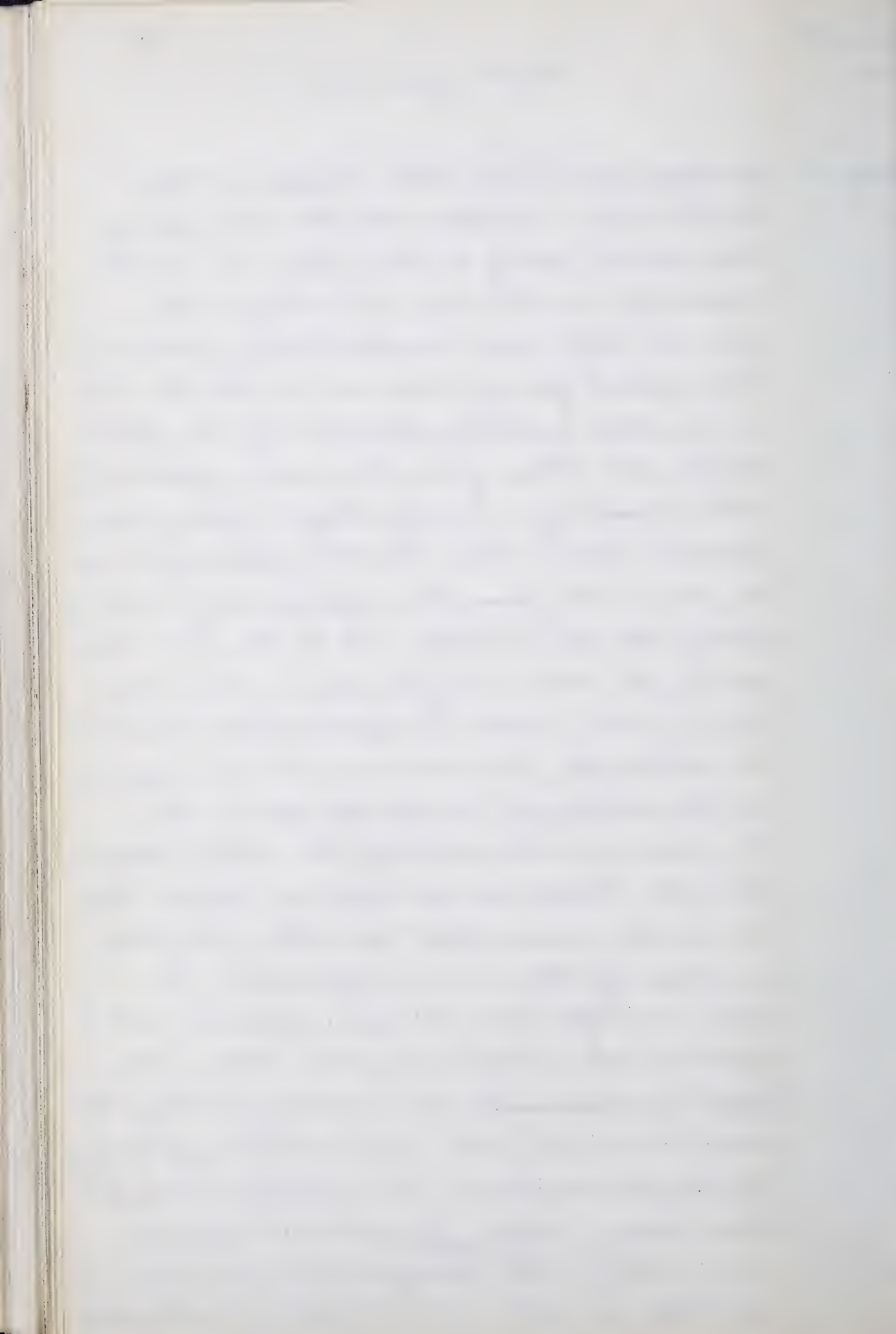
Myotis yumanensis

July 29

Brockway, 6300', Lake Tahoe, Placer Co., Calif.

distinction between adults and young was made only on the basis of joint character and since all stages were found there were undoubtedly some of this year's young classed as adults. This is further substantiated by the fact that all these females were apparently not breeding. Every stage of young was found from these adult-appearing ones to pregnant females apparently nearly ready to give birth. 69 of the 371 were young ♀♀ without question, 73 were young ♂♂, and 9 appeared to be adult ♂♂ although the same criticism applies to this category as to the adult ♀♀.

We looked in the attic of the hotel kitchen at 10:30. There were no bats in sight but we could hear what sounded like large numbers of them up in the roof. The hotel manager showed us a place in a rock right on the lakeshore where there were Myotis yumanensis in a nearly horizontal crack about $\frac{1}{2}$ " wide and several yards long. We could see about 20 but there may have been many more. We got out 3 young (1 ♂, 2 ♀♀) ^{♂ banded them}, but thought that we saw adults as well. At 2:00 p.m., Wade went



M.C. Ramage
1946

15

Myotis yumanensis

July 29

Brockway, 6300', Lake Tahoe, Placer Co., Calif.
back into the hotel attic. He found few bats out along the ridgepole, but many still out in 2 side rooms at a lower level than the main center part of the attic. He filled a sack, again not taking all that he might have. at 3:00 he released the bats we banded in the morning and after that could catch none but banded individuals. at about 5:00 he was once more able to get a few unbanded ones. His impression was that the bats had moved out of this center section of the attic during the hot part of the day and were now beginning to move back into it. Out of the lot caught in the morning, 73 of the adult ♀♀ were dead before they could be returned, and the bands were removed from these and put onto new bats. Of the ²⁷⁴~~267~~ caught in the afternoon and banded, 144 were ^(apparently) adult ♀♀, 19 were ^(apparently) adult ♂♂, 47 were young ♀♀, and 64 were young ♂♂.

July 30

Homewood, 6238', Lake Tahoe, Placer Co., Calif.
We found no bats in J.P. Obexer's boat house where we collected *Myotis yumanensis* & *Lucifugus* last Sept. 21.

M.C. Ramage
1946

16

Myotis yumanensis

Aug. 10

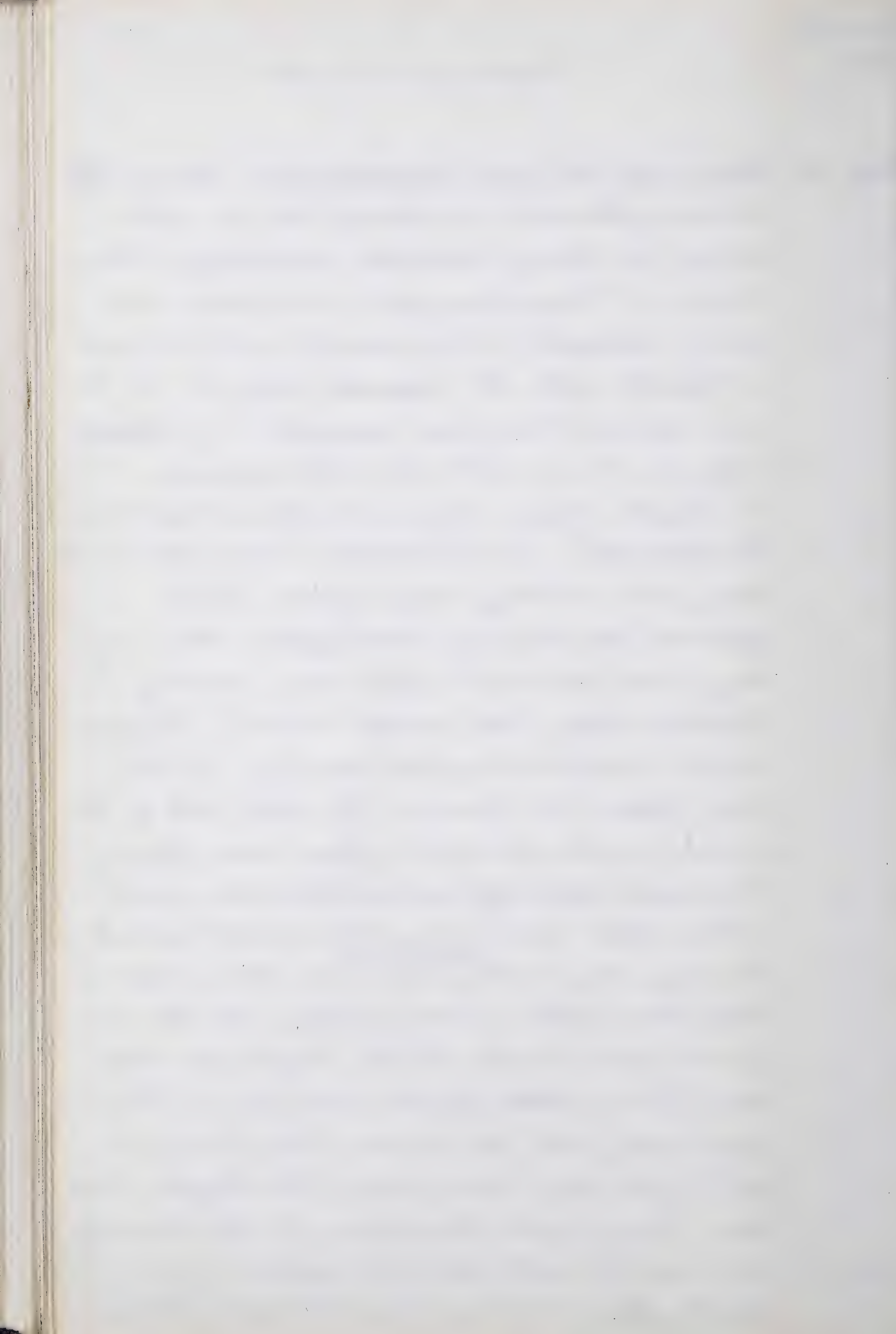
Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Cal.

In the afternoon we looked at the bats under the bridge but did not disturb them.

I saw 1 M. yumanensis in a space with young Tadarida (the same one where we got a Myotis with the Tadarida July 16). In the same space which was occupied by Myotis July 16, these bats were still present.

The Myotis again began to fly sooner than the Tadarida. We checked on the bats almost every hour through the night. There appeared to be many more Myotis than by day but it could have been merely because they had moved down. They were in the crack and also hanging in the open from the beams to either side of the crack, and always a few were flying. The most activity seemed to occur just after dark and again at 1:30 at about the time the moon ^(almost full) came over the hill so that the light hit the bridge. At the time of the last check before daylight there were fewer ~~bats~~ Myotis hanging in the open, and just as it was beginning to get light there were none. Few Myotis were seen flying after this time. In the morning we tried to catch all the Myotis in the crack, but most of them escaped. Those

Aug. 11

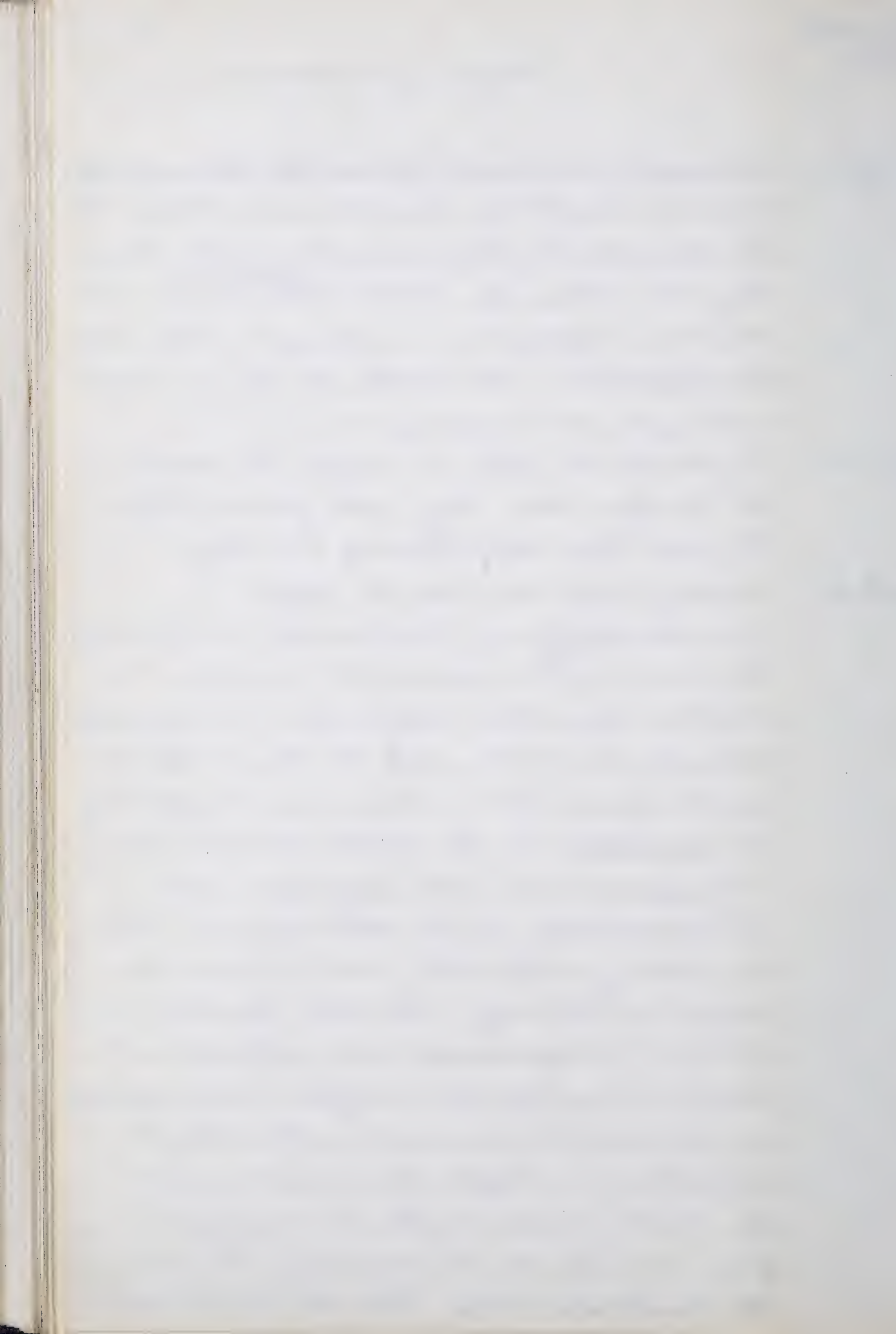


M.C. Ramage
1946

17

Myotis yumanensis

- Aug. 11 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.
which we caught we banded and returned to the same crack. Only one flew out when they were returned. 8 were ^(apparently) adult, ♀♀, 1 was adult ♂, 1 young ♀, & 1 young ♂. There were also Tadarida in the crack, of which we got 2 young ♀♀ and 6 young ♂♂.
- Sept. 22 We found no bats in any of the cracks in the bridge where they were present before. We were there only during the day.
- Sept. 28 Lucerne, Clear Lake, Lake Co., Calif.
For a description of the tunnels, see journal Dec. 1 and 2, ^{1945.} We arrived at 5:30 p.m. The weather was warm and clear. The temperature outside was 83° F. and at the back of the north tunnel 64° F. There was 1 ♂, probably M. lucifugus in the north tunnel and 5 ♂♂ yumanensis and lucifugus and 1 ♀ ^{1 ♂} Corynorhinus in the south tunnel. All were fairly active and most of them were caught on the wing. All were banded, and all but 1 Corynorhinus were released in the tunnels where they were caught. Those released in the tunnels remained inside with the exception of 1 Myotis which flew out of the south tunnel after hanging for a few minutes on the wall and chewing at the banded wing. ~~The~~ At 7:30 it was



A.C. Ramag
1946

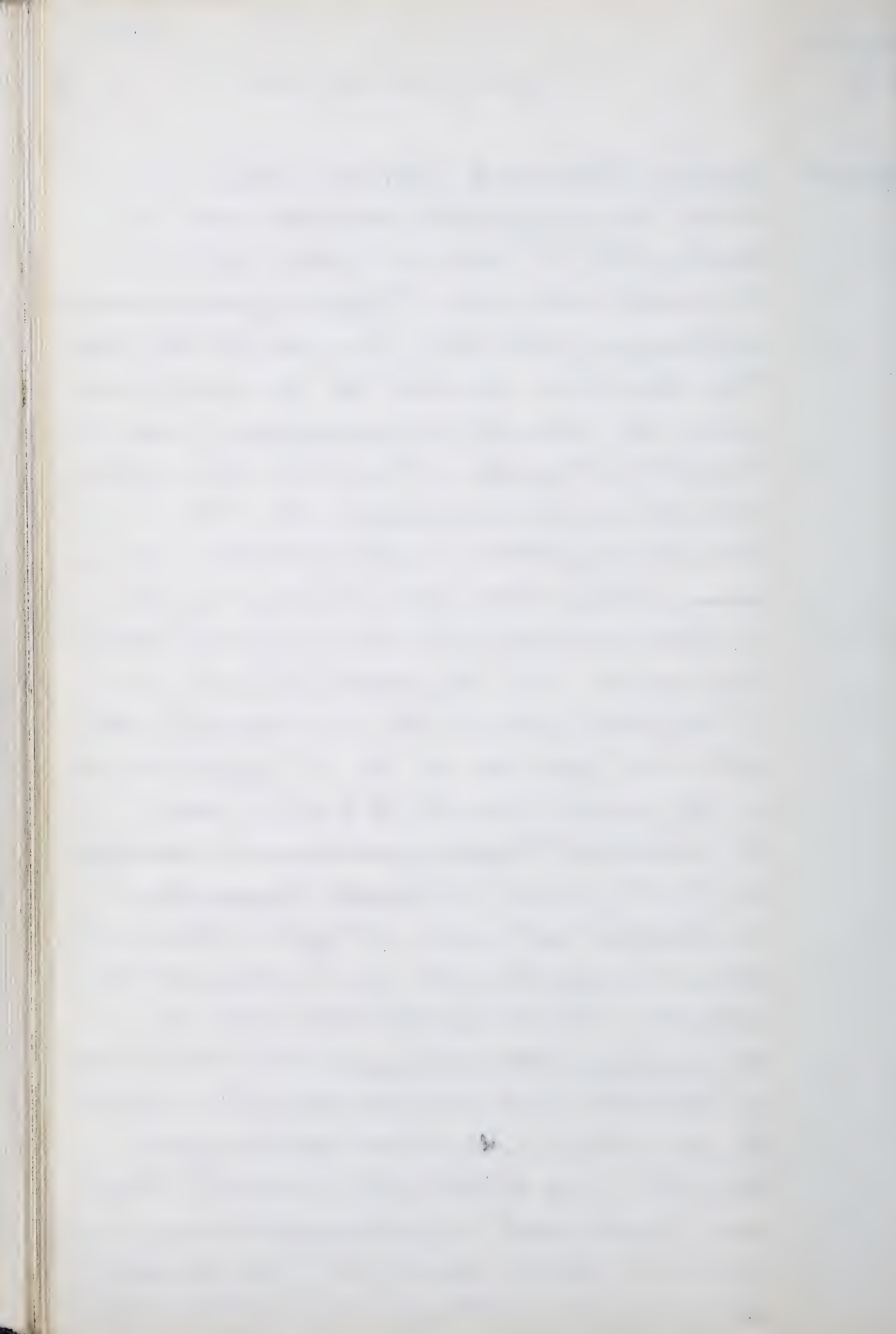
18

Myotis yumanensis

Sept. 28

Lucerne, Clear Lake, Lake Co., Calif.

dark, the temperature outside was 79°F . and inside ^(north cave) the same as before (64°F). In the north cave were 4 Myotis yumanensis & lucifugus (2 ♂♂, 2 ♀♀). One was killed but the other 3 we banded. In the south cave were the banded ♂ Corynorhinus and one banded ♂ Myotis which were there before. All were released outside. At 9:00 (outside temp. 68°F , inside 64°F) there were so many bats that when Dr. Benson first entered he could pick them off the walls by hand. In the north tunnel were 2 banded bats — the one caught there at 5:30 and one of the ♂ Myotis caught in the south tunnel at 5:30 —, and 29 unbanded Myotis yumanensis & lucifugus (28 ♀♀, 1 ♂), and 1 ♂ Myotis thysanodes. We banded all but 1 ♀ Myotis which was killed in capturing it and released them outside. In the south cave were 12 M. yumanensis & lucifugus (8 ♀♀, 4 ♂♂) which we banded and released outside and at least 2 others which were not caught. At 10:45 (temp. outside 67°F , inside 64°F) there were 6 unbanded M. yumanensis & lucifugus (3 ♂♂, 3 ♀♀) and 5 banded ♀♀ (all banded at 9:30 — 3 in south cave, 2 in north) and



M.C. Ramage
1946

19

Myotis yumanensis

Sept. 28

Lucerne, Clear Lake, Lake Co., Calif.

1 unbanded ♂ M. thysanodes in the north cave, and 2 banded Myotis (1 ♂, 1 ♀ - south cave, 9:30) and 12 unbanded (7 ♀♀, 5 ♂♂ yumanensis & lucifugus) in the south cave. All banded & released outside.

At 11:45 only about half of the bats in the north cave were caught. These were 1 unbanded ♀ M. thysanodes and 3 banded yumanensis & lucifugus (2 ♂♂ - south cave 10:45, 1 ♀ - north cave 9:00).

Sept. 29

Most of those seen were banded. At 12:30 (temp. 63° F. outside, 64° F. inside) there were

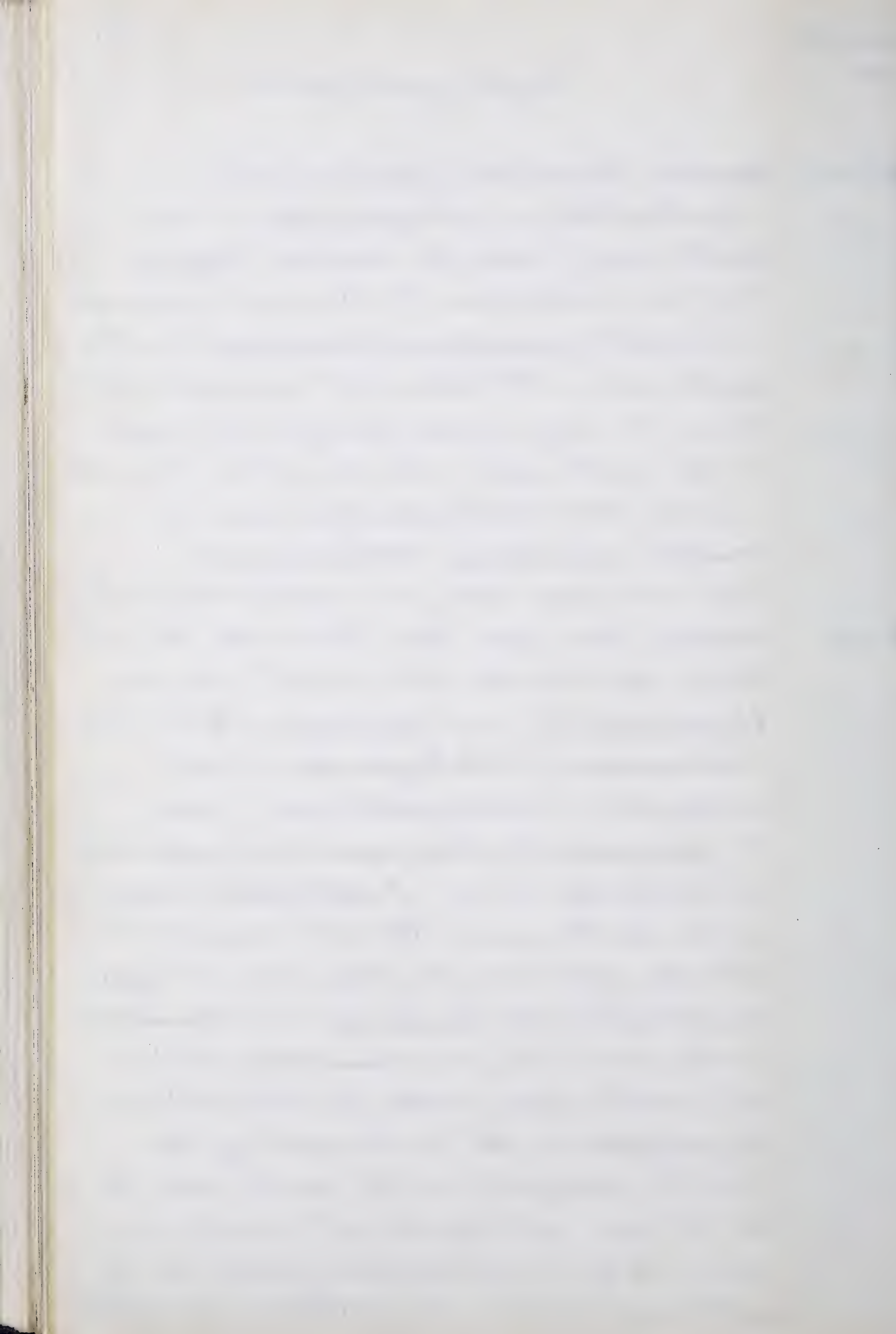
8 yumanensis & lucifugus (4 ♀♀, 2 ♂♂) - ~~all unbanded~~ & 3 ♀♀ thysanodes - all

unbanded - in the north cave, and 4 yumanensis & lucifugus (1 ♂, 1 ♀ unbanded, 1 ♂ - north cave 10:45, 1 ♂ south cave 10:45) in the south cave. At 2:30 (temp. 61° F. outside, 64° F. inside) there were 12 Myotis

yumanensis & lucifugus (1 banded ♀ - north cave 9:00, 5 unbanded ♀♀, 6 ♂♂) in the north cave, and 1 ♀ unbanded M. thysanodes and 4 unbanded y. & l.

(3 ♂♂, 1 escaped) in the south cave. At 4:30 (temp. 61° F. outside, 64° F. inside) there

were 7 (6 ♂♂, 1 ♀) unbanded y. & l. in the north cave and 2 in the south (1 ♀, 1 escaped).



N.C. Ramage
1946

20

Myotis yumanensis

Sept. 29

Lucerne, Clear Lake, Lake Co., Calif.

Toward morning the bats seemed to fly more readily and more rapidly when we entered the caves. At no time except on the one occasion noted did we see them paying any attention to the bands. At 7:00 a.m. (daylight - temp. outside 59° F., inside 64° F.) there were no bats in either cave. At 8:45 a.m. we got 10 *Myotis lucifugus* (7 ♀♀, 3 ♂♂) and 7 ♀♀ *Myotis yumanensis* in the old dance hall. They were mostly in oilcloth hangings, either in folds of hanging pieces or between hangings and the wall and all were so torpid that they fell to the floor without flying when knocked out of the hangings. In the attic and along the ridgepole were spider webs and no bats. We banded these bats and released them in the center of the room. After flying about for a few minutes most of them returned to the same places from which we had taken them. We then went to the hotel attic, where we found the bats active enough to fly when disturbed. We caught and banded only a small proportion of those present - 3 *M. lucifugus* (2 ♂♂, 1 ♀) + 31 ^{probably} *yumanensis* (20 ♀♀, 11 ♂♂).

C. Ramage
1946

21

Myotis yumanensis

Oct. 19-20

Zucerne, Clear Lake, Lake Co., Calif.

During the night we caught and released 4♂♂ at 4:00 p.m., 2♂♂ at 5:00 (missed at 4:00), 1♂ at 7:00 (one of those caught in the same tunnel at 4:00), 15♂♂, 1♀ at 8:00, 7♂♂, 1♀ at 9:00 (4 of these being ones caught at 8:00, 2 in the same tunnel and 2 in the other ^{1 moved N to S; the other S to N.} one from their previous capture, and 1 being a ♂ banded in the hotel on Sept. 29), 7♂♂ at 11:00 (1 having been previously banded on Oct. 19 in the same tunnel at 8:00 and caught again at 9:00), 13♂♂, 1♀ at 12:30 (~~2 of the ♂♂ already banded in the other tunnel - at 4:30, Sept. 28~~), 14♂♂, 1♀ ~~at 2:30~~ (2 of the ♂♂ already banded Sept. 28, one in the same tunnel at 5:30, the other in different tunnel at 9:00), 14♂♂, 1♀ at 2:30 (2 of the ♂♂ already banded - in the other tunnel - at 4:30, Sept. 28), and 1♂ at 4:30. For other bats caught at the same time, see table in journal.

Oct. 20

Only 1 Tadarida was found in the dance hall where we got M. yumanensis & lucifugus Sept. 29. Workmen had been repairing the place. 1 mi. NE Sulphur Bank Mine, 10 mi. SE Zucerne, Lake Co., Calif. We found 8♂♂ and 9♀♀ in an abandoned house, some under wallpaper, some in the folds of an old bathing suit hanging in

Myotis yumanensis

Oct. 20

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
the attic, and some in a crack along the
ridgepole. All except 3 injured ♂♂ were
banded and released. In the same house
we got 2 M. californicus, 1 M. volans,
and 4 Corynorhinus. On Dec. 2, 1945,
we got 5 M. yumanensis, 1 Antrozous,
2 Eptesicus, & 1 Corynorhinus in this house.
3 1/2 mi. SE Clear Lake Oaks, Lake Co., Calif.

One ♂ was caught in an empty house and
banded. When released it flew about
in the trees near the point of release which
was separated from the house where it
was taken by an open field. 1 Tadarida
was also found at this house.

Nov. 16

Lucerne, Clear Lake, Lake Co., Calif.

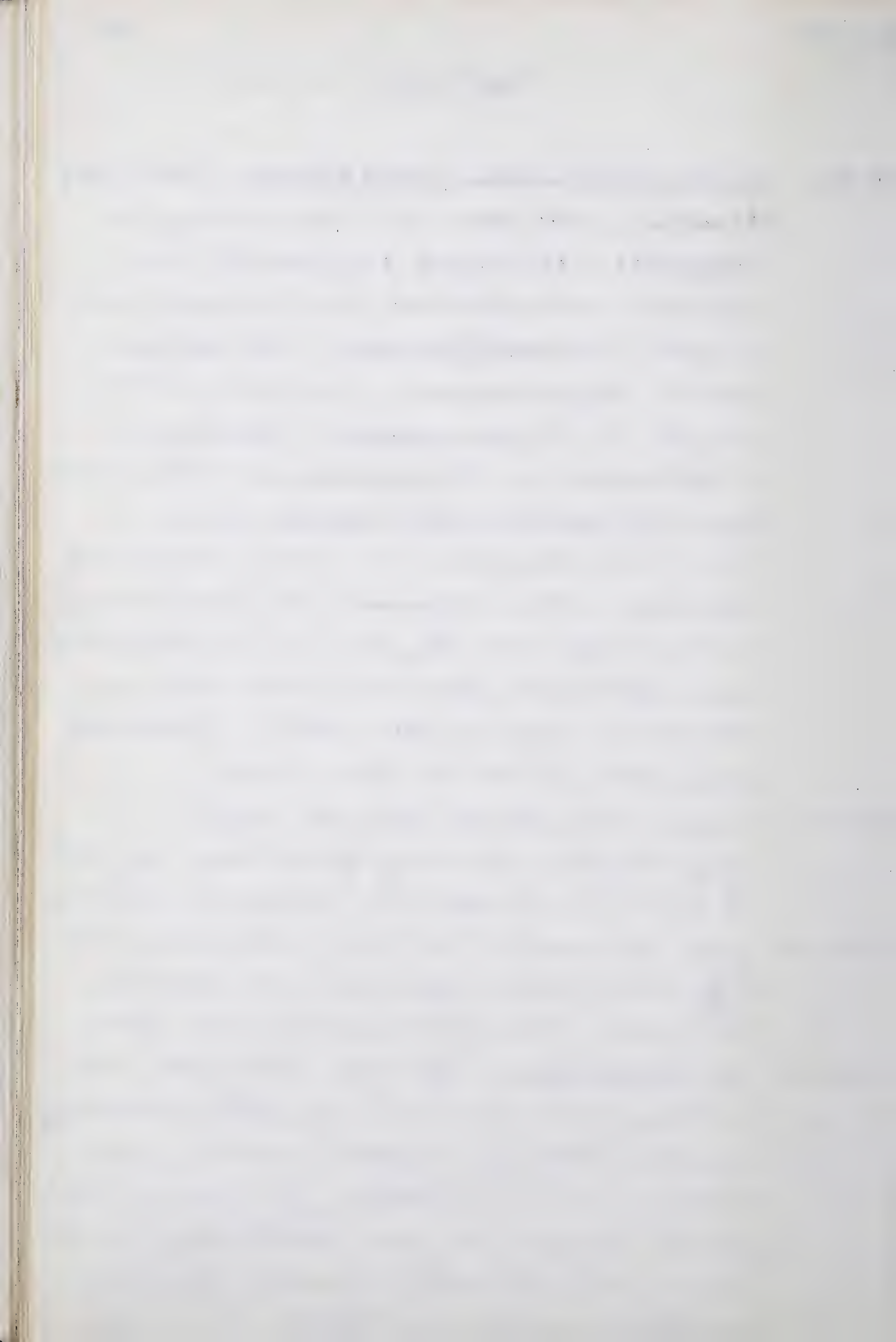
In a night's banding operations, we took
^(1♀) 44 at 4:30, 33 at 7:00, 77 at 9:00, ^(1♀) 28 at 11:00,

Nov. 17

6 at 1:00, and 5 at 3:00, all males but
~~two~~ ^{one}. See table in journal for further
details. Some of these may have been

Nov. 16

M. lucifugus. Of those taken at 4:30
in the north tunnel, one was previously
banded Oct. 19 8:00 p.m. north, and
another ^(Oct. 20) 12:30 a.m. south. Of those in the
south tunnel, one was banded Sept. 28 at
5:30 and 7:30 south, one Sept. 28 at 9:00
and 10:45 south, one Sept. 28 ^{see table on}
^{next page}



I.C. Ramage
1946

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Myotis yumanensis

Nov. 16-17 Lucerne, Clear Lake, Lake Co., Calif.

Returns - all ♂♂

4:30 N Oct. 19 8:00 N

Oct. 20 12:30 S

S Sept. 28 5:30 S, 7:30 S

Sept. 28 9:00 S, 10:45 S

Sept. 28 10:45 S

Oct. 20 12:30 N

7:00 N Nov. 16 4:30 N

S Sept. 29 2:30 S

Sept. 29 Hotel, Oct. 19 9:00 N

Oct. 19 4:00 S

Oct. 19 8:00 S, 9:00 N

Oct. 20 2:30 S

Nov. 16 4:30 N

Nov. 16 4:30 N

Nov. 16 4:30 S

9:00 N Sept. 29 12:30 N

Oct. 19 8:00 N

Nov. 16 4:30 N

Nov. 16 7:00 S

11:00 N Sept. 29 Hotel, Oct. 19 9:00 N, Nov. 16 7:00 S

Oct. 19 8:00 N

Oct. 19 11:00 S

Oct. 20 12:30 N

Nov. 16 9:00 S

Nov. 16 9:00 N (3)

S Nov. 16 9:00 N

M. C. Ramage
1946

24

Myotis yumanensis

Nov. 17 Lucerne, Clear Lake, Lake Co., Calif.

Returns (cont.)

1:00 N Nov. 16 11:00 S

S Oct. 19 4:00 N

Nov. 16 9:00 S, 11:00 N

3:00 N Oct. 19 11:00 S

Oct. 20 12:30 N

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

At the same old house we visited Oct. 20, we banded 5 more *M. yumanensis* (4 ♂♂, 1 ♀) collected under wall paper, but got no returns from our previous visit.

Nov. 29 Returning to the same house, we found one unbanded ♂ under wallpaper which we banded and released.

Lucerne, Clear Lake, Lake Co., Calif.

(see journal)
During a night of banding, we took 4 ♂♂ in the north tunnel at 4:00 p.m. 2 of which escaped, probably in the south tunnel, and 5 new ♂♂ in the south tunnel. At 6:10 there were 2 new ♂♂ in the north tunnel, and in the south tunnel 3 of the same ones taken at 4:00 (released inside) ^{at 4:00 & also at 6:10} and 1 ♂ banded Sept. 29 at 4:30 a.m. in the north tunnel. At 8:00, in the north tunnel, were 12 new ♂♂ and 2 return ♂♂, one from Nov. 16 7:00 p.m. N and the other Nov. 29 6:10 p.m. N. At this time, which is about the length of time after



H.C. Ramage
1946

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myotis yumanensis

- Nov. 29 Lucerne, Clear Lake, Lake Co., Calif. ordinarily dark when we have noticed the bats, to be rather sluggish, presumably full of food, they were very active. In the south tunnel were two new ♂♂ and ~~the~~ the same ~~♂~~⁴ banded ones, at 10:00 in the north tunnel was one new ♂ and one ♂ banded Nov. 16 9:00 p.m. N, and in the south tunnel 3 new ♂♂ and one already taken in the north tunnel at 6:10 and 8:00. At 12:00 there were none in either tunnel. At 2:00 in the north tunnel were 2 new ♂♂ and one ♂ banded Nov. 16 9:00 N, none in the south. None the rest of the night, none in the hotel attic, the dance hall, or the house 1 mi. NE Sulphur Bank Mine, and none in the tunnels the following night, although several small bats were seen flying at dusk.
- Dec. 1 No *M. yumanensis* 1 mi. NE Sulphur Bank Mine and none under the bridge (Bridge 1537) on Bear Creek, 6½ mi. SE Wilbur Springs, Colusa Co. where we collected all we found on Sept. 23, 1945.
- Dec. 28 Lucerne, Clear Lake, Lake Co., Calif. We found 1 unbanded ♂ in the south tunnel ^{banded & released inside.} at 3:30, quite active, no bats at 6:15, and the same *Myotis* at 8:15 in the north tunnel. See journal for temperatures, etc.



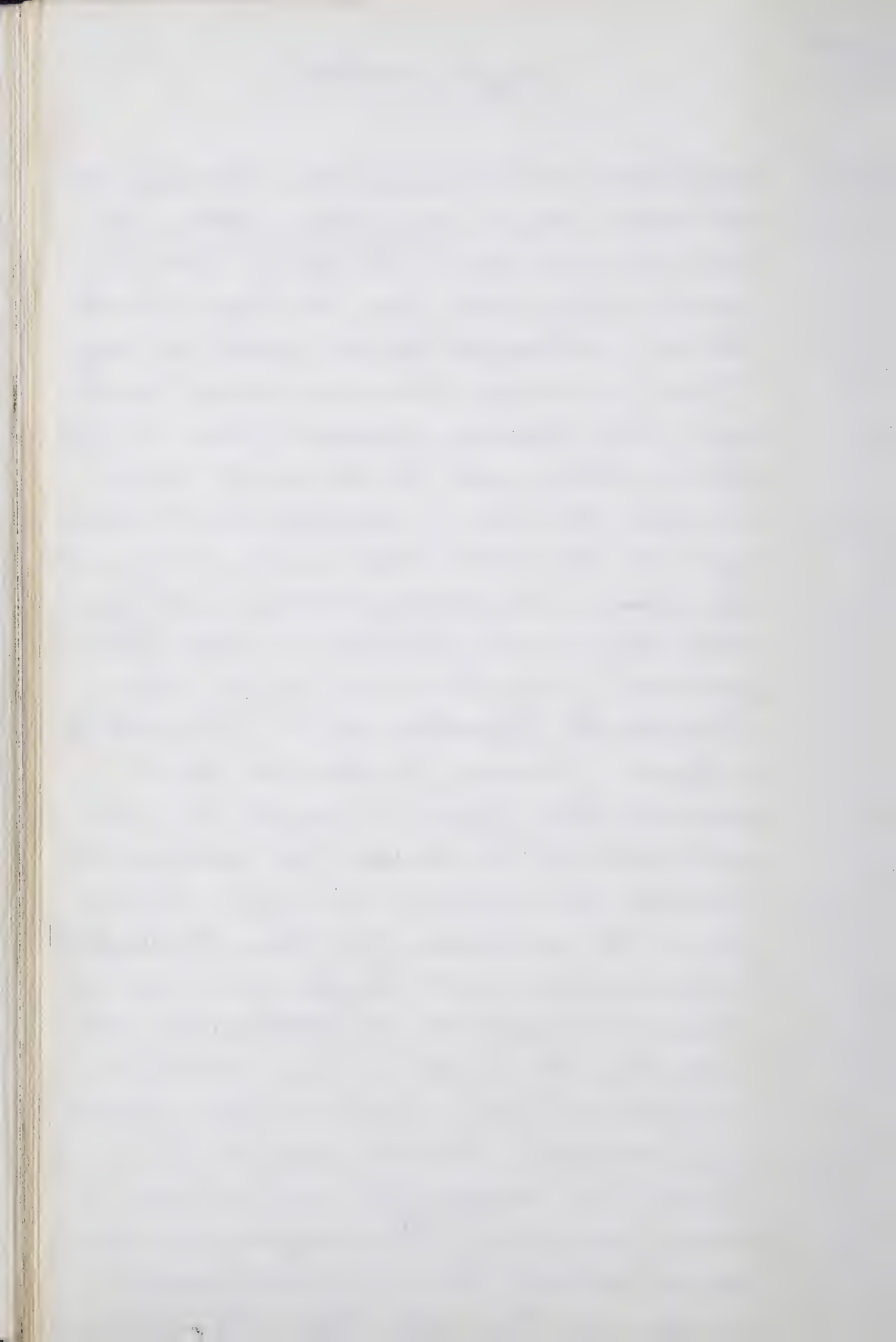
M. Koford
1947

Myotis ~~occultus~~
= *humanensis*

x
25-a

Feb. 9

7 mi. S Vidal (S.B. Co.), Riverside Mts. in Riverside Co., Calif.
At about 1:00 p.m. we entered a horizontal mine tunnel on the ^{on the level of the canyon floor} south side of a canyon about a mile back from the edge of the hills. This is a straight tunnel about 200' long, 7' high, & 6' wide. There are several cracks and holes leading upward from it into which bats might fly or crawl. About 50' from the end a vertical shaft leads upward. The odor of bats is very strong and the floor is completely covered with guano, probably several feet deep in spots. When part way in, we saw a bat flying which looked like *Macrotus*, but it flew out the entrance. Toward the back we saw a smaller bat flying. I caught it in the net but let it escape. Carl followed it toward the entrance and got between it and the entrance, but then it disappeared. We walked the whole length of the tunnel without seeing it. As we prepared to leave, Carl went back for a final check. When he got part way back, the bat appeared from somewhere and he caught it. I think it is *M. occultus*. It is a male in breeding condition ^{& very fat.} The droppings in this tunnel do not have the insect parts mixed with them which those in the *Macrotus* ^{did.}



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Myotis yumanensis

March 8 Lucerne, Clear Lake, Lake Co., Calif.

During the night's banding operations we took 106 different individuals (see journal) as follows:

new - 71 ♂♂, 1 ♀ ; returns - 32 ♂♂, 2 ♀♀

Returns :

3:30 pm

North

1 ♂ Sept. 28 5:30 pm S, 9:00 pm N

1 ♀ " 10:45 pm S

1 ♂ Nov. 16 4:30 pm N

1 ♂ " 4:30 pm S

South

1 ♂ Sept. 29 2:30 am S

1 ♀ " 4:30 am S

1 ♂ Nov. 16 4:30 pm N

8:00 pm

North

1 ♂ Sept. 28 2:30 am S

1 ♂ Nov. 16 4:30 pm N

4 ♂♂ " 7:00 pm S

1 ♂ " 9:00 pm S

2 ♂♂ " 9:00 pm N

1 ♂ " 11:00 pm N

(2 ♂♂) Mar 8 3:30 pm N

South

1 ♂ Sept. 28. 5:30 + 7:30 pm S, Nov. 16 4:30 pm S

1 ♂ " 9:00 pm S, Oct. 20 12:30 am N

1 ♂ " 4:30 am N

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Myotis yumanensis

March 8-9 Lucerne, Clear Lake, Lake Co., Calif.

Returns (cont.):

8:00 pm

South (cont.)

1♂ Nov. 16 9:00 pm S, 11:00 pm N, 1:00 am S

1♂ " 9:00 pm S

1♂ " 9:00 pm N

1♂ " 11:00 pm N

(1♂) Mar. 8 3:30 pm N

(+ 1♂ just banded in N)

10:30 pm

North

1♂ Oct. 19 8:00 pm N

1♂ " 8:00 & 9:00 pm S

(1♂) Nov. 16 4:30 pm N, Mar. 8 8:00 pm N

1♂ " 4:30 & 9:00 pm N

1♂ " 7:00 pm N

31♂ " 9:00 pm N

1♂ " 9:00 & 11:00 pm N

1♂ " 11:00 pm S

(1♂) Mar. 8 3:30 pm N

(31♂) " 8:00 pm N

South

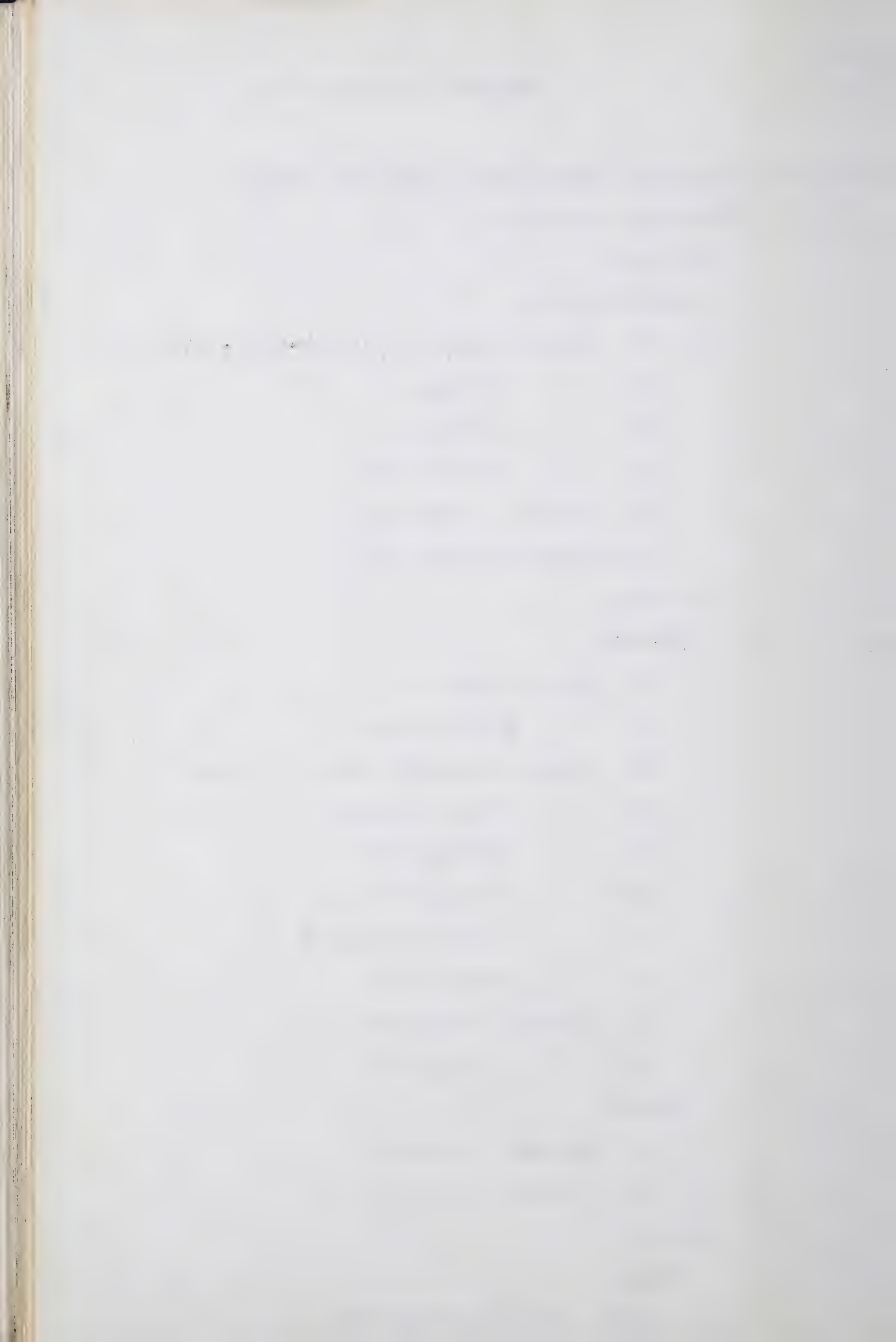
1♂ Oct. 20 2:30 am S

(1♂) Mar. 8 8:00 pm S

1:00 am

North

(2♂) Mar. 8 10:30 pm N



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Myotis yumanensis

March 8-9 Lucerne, Clear Lake, Lake Co, Calif.

1:00 a.m.

South

- (1 ♂) Mar. 8 8:00 & 10:30 pm N
- (1 ♀) " 8:00 pm S & 10:30 pm N
- (2 ♀♀) " 10:30 pm N
- (3 ♀♀) " 10:30 pm S

7:30 a.m.

South

- (1 ♀) Mar. 8 10:30 pm S

When we entered the caves at 3:30 pm most of the bats were in small holes and crevices in the ceiling, some of them out of reach except with forceps. They quickly became active when disturbed however, for when we left for a few minutes and returned with forceps, ^{the} 3 bats which we had been unable to reach were flying. One bat returned to a crack while Carl was chasing them. He took one bat from a very small crack in the part of the north cave where the ceiling was quite wet. On entering the caves a second time we found bats flying which we had not gotten the first time, presumably having come out of cracks. In the morning we entered the attic of the Lucerne Hotel and found only 3 ♀♀, which we banded.

March 9



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Myotis yumanensis

March 16 Fork of
Waddell Cr., Santa Cruz Co., Calif.

a ♂ banded July 15, ^{1946,} as a young of the year
was collected by Bob Rudd as it hung
up at night in the cabin from which I
collected the M. yumanensis.

March 29 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

We got one unbanded ♂ under wallpaper.

March 29-30 Lucerne During the night's banding operations
we got 124 different individuals (see journal):

new: ⁴⁷49♂♂, ³⁹37♀♀

return: 23♂♂, 5♀♀

5:00 pm N (new 2 ^{♀♀}♂♂)

♂ Oct. 19 5:00 pm N

5:00 pm S (new 5 ♂♂, 1 ♀)

♂ Sept. 28 2:30 am N

♂ Nov. 16 7:00 pm S

(8:00 pm N new 1 ♂, 1 ♀)

8:00 pm S (new 1 ♂, 1 ♀)

♂ Nov. 16 4:30 pm N

♂ " 4:30 pm & 7:00 pm S

♂ Dec. 28 3:30 ^{pm S}~~am N~~, ~~Nov. 16 4:30 pm S~~

10:00 pm N (new 20 ♂♂, 32 ♀♀)

♀ Sept. 28 9:00 pm N

2♀♀ " 9:00 pm S

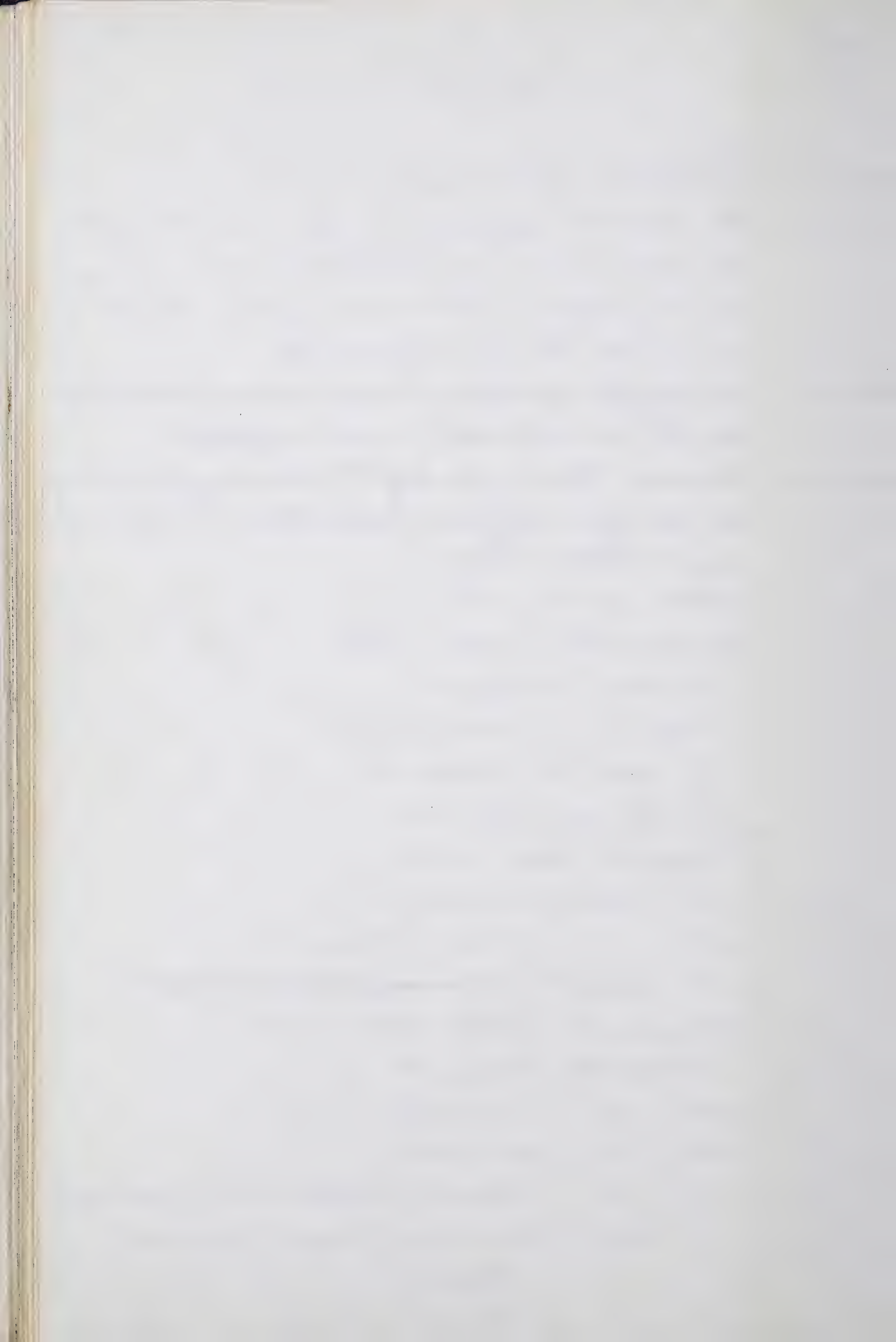
2♀♀ " 10:45 pm N

♂ " 4:30 am N, Oct. 20 2:30 am S, Mar 8 8:00 pm ^S

♂ Oct. 19 8:00 & 9:00 pm S, Mar 8 10:30 pm N

♂ " 2:30 am N

♂ " 2:30 am S



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Myotis yumanensis

March 29-30 Xucerne, Clear Lake, Lake Co., Calif.

10:00 pm N (cont.)

♂ Nov. 16 4:30 pm N

3♀♀ " 9:00 pm N

♂ Mar. 8 8:00 pm S

2♂♂ " 10:30 pm N

♀ Mar. 29 8:00 pm N

11:00 pm S (new 17 ♂♂)

♂ Oct. 19 2:30 am N

♂ Nov. 16 4:30 pm N

♂ " 9:00 pm N, Mar. 8 8:00 pm N

2♂♂ Mar. 8 8:00 pm N

1:00 am N (new 1 ♂, 2♀♀)

♂ Mar. 29 10:00 pm N

♀ " "

1:00 am S (new 2♂♂)

♂ Oct. 19 8:00 pm S, 9:00 pm N, Nov. 16 7:00 pm S

2♀♀ Mar. 29 10:00 pm N

4♂♂ " 11:00 pm S

3:00 am N

♀ Mar. 29 10:00 pm, 1:00 am N

♂ Mar. 30 1:00 am N

3:00 am S

♂ Oct. 19 8:00 pm S, 9:00 pm N, Nov. 16 7:00 pm S,

Mar. 30 1:00 am S

♀ Mar. 29 10:00 pm N, ^{Mar. 30} 1:00 am S

♂ " 11:00 pm S

♂ Mar. 30 1:00 am S

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Myotis yumanensis

March 30

Lucerne, Clear Lake, Lake Co., Calif.

There were still few bats in the hotel attic.

We banded 8 ♂♂ which we found in the crack beside the door just inside the attic.

1 mi. NE Sulphur Bank Mine Under wallpaper was 1 ♂ banded Nov. 17, and 2 ♀♀ - new.

April 19-20

During the night's banding we got 144 different individuals of which some were undoubtedly *M. lucifugus* (see journal) ~~for times~~

new: 110 (106 ♀♀, 4 ♂♂)

returns: ³⁴32 (²⁴~~22~~ ♀♀, 10 ♂♂)

9:30 N (new 24 ♀♀)

♀ Sept. 28 7:30 pm N

♀ " 9:00, 10:45 pm N

♀ (luc.) " 9:00 pm N

♀ " 9:00, 11:45 pm N

♀ " 9:00 pm S, Mar 29 10:00 pm N

♀ " 9:00 pm S

2 ♀♀ " 10:45 pm S

♀ Sept. 29 12:30 am S

♀ " 2:30 am N

♂ Oct. 19 8:00 pm N

♂ Oct. 20 12:30 am N

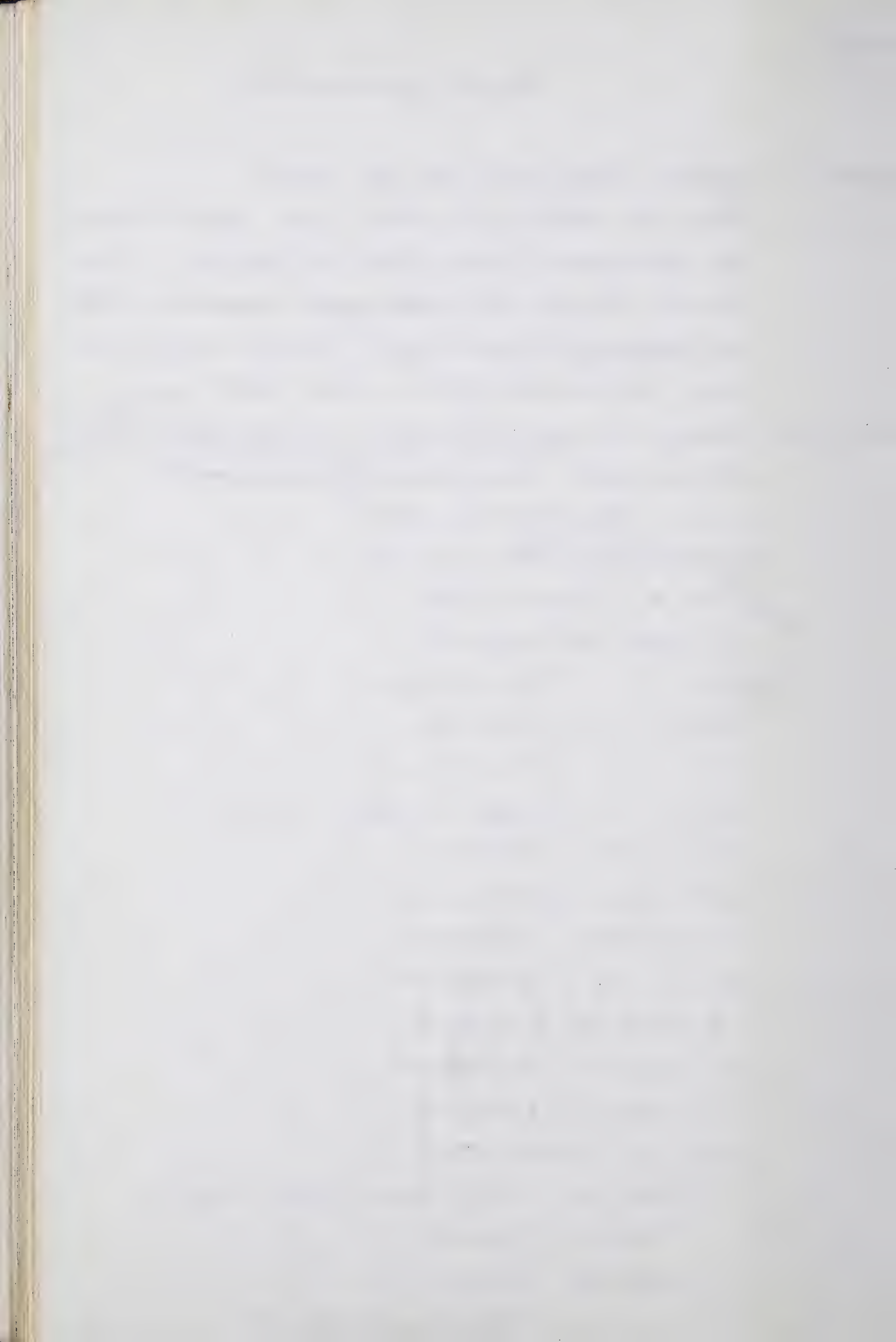
♀ Mar. 8 3:30 pm N

10:15 S (new 6 ♀♀)

♂ Sept. 28 5:30, 7:30 pm S, Nov. 16 4:30 pm S,
Mar. 8 8:00 pm S

♀ Sept. 28 9:00 pm S

♀ " 9:00 pm S, 10:45 pm N



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Myotis yumanensis

April 19-20

Zucerne, Clear Lake, Lake Co., Calif.

10:15 S (cont.)

♀ Sept. 28 10:45 pm S

♂ Sept. 29 4:30 am N, Oct. 20 2:30 am S, Mar. 8 8:00 pm S,
Mar. 29 10:00 pm N

♀ Sept. 29 4:30 am S, Mar. 8 3:30 pm S, Mar. 29 10:00 pm N

♂ Oct. 20 12:30 am N

12:00 N (new 36 ♀♀)

♀ Sept. 28 9:00 pm S, 10:45 pm N

♀ " 10:45 pm N, Mar. 29 10:00 pm N

♀ Sept. 29 12:30 am N

♂ Nov. 16 11:00 pm S

♀ Mar. 29 10:00 pm N, Mar. 30 1:00, 3:00 am N

3 ♀♀ Apr. 19 9:30 pm N

12:30 S

♀ Apr. 19 9:30 pm N

♀ " 10:15 pm S

2:45 N (new 37 ♀♀, 4 ♂♂)

♀ (Luc.) Sept. 28 7:30 pm N

2 ♀♀ " 9:00 pm N

♀ Sept. 29 2:30 am N

♂ Oct. 19 11:00 pm N

♂ Nov. 16 4:30 pm N, Mar. 8 3:30 pm N

♀ Apr. 19 10:15 pm S

♀ " 12:00 pm N

2:45 S (new 2 ♀♀)

♀ Sept. 28 9:00 pm S, Apr. 19 9:30 pm N

♀ " 10:45 pm N, " 12:00 pm N



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Myotis yumanensis

April 19-20

Lucerne, Clear Lake, Lake Co., Calif.

2:45^S (cont.)

♀ Sept. 28 10:45 pm S

♂ Sept. 29 2:30 am S, Mar. 8 3:30 pm S

♂ Mar. 29 11:00 pm S

4:30 N

♀ Apr. 20 2:45 am N

7:00 N (new - 1♀)

♀ Sept. 28 9:00 pm N, Apr. 20 2:45 am N

♀ Sept. 29 2:30 am N, Apr. 20 2:45 am N

♂ Oct. 19 11:00 pm N, Apr. 20 2:45 am N

♀ Apr. 20 2:45 am N

7:00 S

♂ Sept. 29 2:30 am S, Mar. 8 3:30 pm S,

Apr. 20 2:45 am S

♂ Mar. 29 11:00 pm S, Apr. 20 2:45 am S

May 2

Albion, Mendocino Co., Calif.

In the attic of the building where Hemphill got the Corynorhinus a week ago we got 1♂. It was a dark attic and the first time we saw the bat it was flying. Time 2:30 pm.

May 3-4

Lucerne

During the night's banding we took 176 different individuals (see journal) a good many of which were probably M. lucifugus. In the north cave from 10:00 pm on the bats were in tight clusters on the ceiling and were very unwilling to fly even when touched with



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Myotis yumanensis

May 3-4

Lucerne, Clear Lake, Lake Co., Calif.

the net. The one at 7:45 am was in a crevice where it had to be reached with forceps.

The two injured ones (1 *yumanensis*, 1 *lucifugus*) which I saved as specimens were one not pregnant and one with only a slight enlargement in the right horn of the uterus. Both were very fat and in both the kidney on the right side was farther forward than on the left.

new: 1♂, 136♀♀

returns: 13♂♂, 26♀♀

5:15 pm S (no new)

♂ Sept. 29 2:30 am S, Nov. 16 7:00 pm S
(8:30 N new 1♂, 1♀)

8:30 pm S (no new)

♀ Sept. 28 7:30 pm N, Apr. 20 2:45 am N

♀ " 9:00 pm S, Apr. 19-20 9:30 pm N, 2:45 am S

♂ Oct. 19 4:00, 7:00 pm S

♂ Nov. 16 9:00 pm N, Mar. 8 8:00 pm N

10:00 pm N (new 106♀♀)

3♀♀ Sept. 28 9:00 pm N

♀ " 9:00 pm N, 11:45 pm N, Apr. 19 9:30 pm N

♀ " 9:30 pm S

2♀♀ " 10:45 pm S

♀ " 10:45 pm S, Apr. 19 10:15 pm S

♀ " 2:30 am N, Apr. 19 9:30 pm N

♂ Nov. 16 9:00 pm N, Mar. 8 10:30 pm N

♂ " 9:00 pm N, Mar. 8 8:00 pm N, Mar. 29 11:00 pm S

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Myotis yumanensis

May 3-4

Lucerne, Clear Lake, Lake Co., Calif.

10:00 pm N (cont.)

♀ Mar. 29 10:00 pm N
2♀♀ Apr. 19 9:30 pm N
3♀♀ " 12:00 pm N
♀ Apr. 20 Hotel
♀ May 3 8:30 pm N
♂ " "

10:30 pm S (new 1♀)

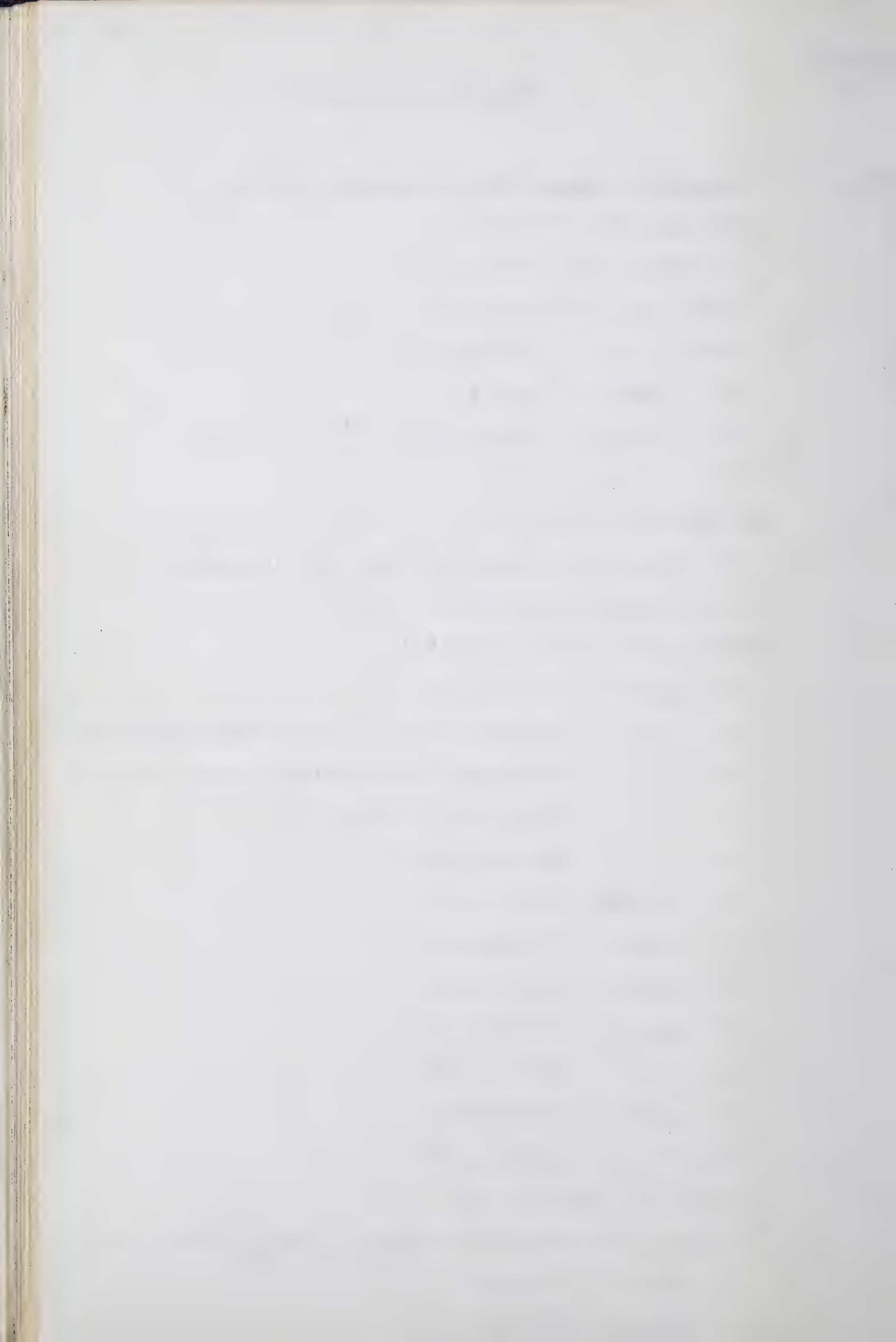
♂ Nov. 16 7:00 pm S, Mar. 29 5:00 pm S
♂ Mar. 8 3:30 pm N

2:30 am N (new 27♀♀)

♀ Sept. 28 9:00 pm N
♀ " 9:00 pm, 11:45 pm N, Apr. 19 9:30 pm N, May 3 10:00 pm N
♀ " 9:00 pm S, Mar. 29 10:00 pm N, Apr. 19 9:30 pm N
♀ " 9:00 pm S, 10:45 pm N
♀ " Dance Hall
♂ Oct. 20 2:30 am N
♂ Nov. 16 7:00 pm N
♂ Mar. 8 8:00 pm N
♀ Apr. 19 9:30 pm N
♀ " 12:00 pm N
♀ Apr. 20 2:45 am N
7♀♀ May 3 10:00 pm N

2:30 am S (new 1♀)

♂ Oct. 19 4:00 pm N, 7:00 pm S, May 3 8:30 pm S
♂ Mar. 8 10:30 pm N
♂ Mar. 29 8:00 pm S
♀ Apr. 19 9:30 pm N



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Myotis yumanensis

May 3-4

Lucerne, Clear Lake, Lake Co., Calif.

7:45 am N (no new)

♀ May 3 10:00 pm, 2:30 am N

When ^{Carl} we entered the north cave at 11:30 to release the bats collected at 10:00 there were approximately as many bats there as there had been at 10:00 but he made no attempt to catch them at this time.

May 23

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

at the old house we got one ^{under wallpaper} ♂ banded Nov. 17 and taken again March 30. In the attic we got 3 unbanded and saw 4 others. In one pair of pants was a ♂ yumanensis and a ♀ lucifugus. In the bathing suit was a ♀ lucifugus and two which escaped. One more bat escaped from another pair of pants and another appeared flying.

Lucerne at 6:30 pm - temp. out 28°C. there was one Corynorhinus in the north cave; the rest of the night only M. yum. & lucifugus,
10:00 pm N out 18°C. all very fat.

~~out 18°C.~~
new: 6♀♀, 1♂

return: ♀ Sept. 28 9:00 pm N

♀ April 19 9:30 N, Apr. 20 12:30 S

11:00 pm S

new: 1♀

return: ♂ Sept. 28 5:30 pm S, Oct. 20 12:30 am S



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Myotis yumanensis

May 23-24 Lucerne

11:00 pm S

returns: (cont.)

♀ Sept. 28 10:45 pm S, April 20 2:45 am S

12:00 N out 17°C.

new: 5 ♀♀ (+ 1 escape)

12:00 S

1 escape

3:00 am N out 17°C.

new: 5 ♀♀ (1 injured - kept) #561

return: ♀ 12:00 N

3:00 am S

none

3:30 am N

return: 2 ♀♀ 3:00 am N

4:30 am N out 15°C. daylight

return: ♀ 3:00 & 3:30 am N

June 12

We spent a night at the caves. Although I suspect that some, perhaps most, of the bats we got were M. lucifugus, I shall continue my policy of lumping them all under yumanensis in my notes.

6:00 pm 28°C. out

10:00 pm N mostly in cluster near entrance

new:

13 ♀♀

2 ♂♂

returns:



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Myotis yumanensis

June 12-13 Zucerne, Lake Co., Calif.

returns:

1 ♀ Sept. 28 9:00 pm N
(not preg.) 1 ♀ " 2:30 am N, Apr. 19 9:30 pm N, May 3¹⁰ pm N
8 ♀♀ May 3 10:00 pm N
1 ♀ May 23 12:00 N
11:00 pm S 17°C. out

returns:

1 ♂ Nov. 16 9:00 pm N, Mar. 8 8:00 pm N, May 3^{8:30} pm S
1 ♀ Sept. 28 10:45 pm S, Apr. 19 9:30 pm N
12:30 am N 15°C. out 18°C. in (N)

new:

5 ♂♂

14 ♀♀

returns:

1 ♀ May 3 10:00 pm N
1 ♀ June 12 10:00 pm N
1:00 am S

returns:

1 ♀ Sept. 28 9:00 pm S, Apr. 19 10:15 pm S
1 ♀ May 3 2:30 am N
1 ♀ June 12 10:00 pm N
3:00 am 13°C. out
8:30 am 17°C. out

> no bats

Nearly all the females appeared to be pregnant. All the bats seemed loathe to fly all night, although they did fly somewhat faster toward morning.



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Myotis yumanensis

June 13

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

at the same empty house we found two unbanded ♂♂ under wallpaper.

July 14

Lucerne, Lake Co.

The bats caught in a night's banding were as follows (for other species see *Journal*):
M. thysanodes and Corynorhinus:

9:00 pm 18°C out

N

new:

1 ♂ immature

1 ♀ "

1 ♀ adult

return:

1 ♀ Sept. 28 9:00 pm N, Apr. 20 2:45 am N, 7:00^{am} N

1 ♀ " 9:00 pm S, Mar. 29 10:00 pm N, Apr. 19 9:30^{am} N

1 ♂ July 12 10:00 pm N

S

new:

1 ♀ adult

return:

1 ♂ Sept. 28 5:30 pm S

1 ♂ Sept. 29 Hotel, Oct. 19 9:00 pm N, Nov. 16 7:00 S, 11:00 N.

11:00 16°C. out

N

new:

2 ♀♀ adult

1 ♀ immature

1 ♂ adult



M. Koford
1947

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Myotis yumanensis

July 14-15 Lucerne, Lake Co., Calif.

return:

1 ♀ May 13 10:00pm N lactating or recently so
S

return:

1 ♀ immature J14 9:00pm N
2:00 am 14°C. out
N

new:

1 ♀ adult
1 ♂ adult

return:

1 ♂ adult June 12 10:00pm N

~~For~~ contrast to last time, the bats were very active and flew readily all night.

August 2

Berkeley

The ♀ kept alive since ^{Oct. 16} ~~August~~, 1945, died today because I didn't feed it enough. Until the time it began running out of maggots it was apparently in perfect health, having been kept on a diet of blue bottle fly larvae and pupae.

Aug. 10

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

We banded one ♀ found under wallpaper in the old house here. Several other *Myotis* were chased out of the clothes hanging in the attic but none of these was caught.



M. Koford
1947

Myotis yumanensis

Aug. 10

Lucerne, Clear Lake, Lake Co., Calif.

The following table shows the results of a night's banding. No attempt was made to separate M. lucifugus. Some of the age determinations are doubtful since ^{some} the young of the year appeared adult and the adults were so far past lactating as to cause no uncertainty in some cases. ^{The ♀♀ especially were very fat.} Very few bats were seen flying before dark. The large number at 1:30 (N) were very loathe to fly.

			ad. ^{♂♂}	im.	ad. ^{♀♀}	im.
					new	
7:45	23°C.	N-				
		S-		1 new		
10:00	21°C.	N-	1 new		8 new	
			2 return		3 return	
10:30		S-	1 new			
			2 return			
1:30	19°C.	N-	2 new	1 new	8 new	1 new
			1 return		8 return	1 return
2:30		S-	1 new	1 new		2 new
			1 return			
4:00	16°C.					
5:00	15°C.					

Returns:

10:00 N

♂ ad Apr. 20 2:45 am N

♂ ad June 12 10:00 pm N, July 14 9:00 pm N

2 ♀ ad May 3 10:00 pm N

♀ ad May 23 12:00 N

10:30 S

♂ ad Sept. 28 5:30 pm S, July 14 9:00 pm S

♂ ad March 29 8:00 pm S, May 4 2:30 am S



M. Koford
1947

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Myotis yumanensis

Aug. 11 Lucerne, Clear Lake, Lake Co., Calif.

1:30 N

♂ ad Oct. 19 8:00 pm N, April 19 9:30 pm N

♀ ad Sept. 28 9:00 pm N, May 23 10:00 pm N

♀ ad May 4 2:30 am N

♀ ad May 23 10:00 pm N

♀ ad " 11:00 pm S

♀ ad June 12 10:00 pm N

♀ ad " 10:00 pm N, 1:00 am S

♀ ad June 13 12:30 am N

♀ ad? Aug. 10 10:00 pm N

2:30 S

♂ ad Sept. 29 Hotel, Oct. 19 9:00 pm N, Nov. 16 7:00 pm S
and 11:00 pm N, July 14 9:00 pm S.

Aug. 12

Smith R., 2 mi. N Fort Dick, Del Norte Co., Calif.

Carl shot 1 ♀ imm[?]. We saw many Eptesicus
and some other Myotis.

Aug. 20

Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.

In the same crack under the bridge in which we
found Myotis yumanensis last summer we
found them again. We caught only three
out of about a dozen or more. These were
adult ♀♀. We banded and released them.

Aug. 25

Berkeley, Alameda Co. The best crack in the
basement and some of those on the stairs
of the Hearst Mining Bldg. have been
boarded up. On the roof we saw one Myotis
in the north pergola, three in the west, and



M. K. Ford
1947-8

Myotis yumanensis

Aug. 25 Berkeley, Alameda Co., Calif.

ten in the east. All were in corner tiles.

In the west pergola, we got one of two which were together under one tile, an immature ♀.

In the east, we got four, two together under one tile, and two individually. Under another tile there were at least six, five of which we chased out trying to catch them.

The four caught here were all ♀♀ which apparently have lactated this year.

Sept. 2
Return at
Lakeport
of 46-16604
by J. Z. Mallory
Box H, Lakeport
(banded
Nov. 16, Lucerne)

They are shinier than the immature and have lighter ears and membranes.

Sept. 24

Lucerne, Clear Lake, Lake Co., Calif.

I banded 11 ♂♂ & 13 ♀♀ *M. yumanensis* and *lucifugus* (for times see journal), and got 9 ♂♂ & 10 ♀♀ returns (counting duplications).

most ~~All~~ ♂♂ had large testes. Returns: (see banding records)

6:30 N	46-16186, 16204
S	26868
9:30 N	16186, 16357, 26586, 26582, 26031
10:00 S	16213, 16588, 26122
11:00 N	26867, 26874
1:30 W	16365, 26613
3:30 N	16186, 26477
4:00 S	26599, 26893

Jan. 24-5 We banded 1 new ♂ in the S cave at 5:45 pm and 1 in the N at 8:15. At 8:45 S we banded 1 new ♂ (kept for Dr. Pearson) and took 1 return ♂. (46-26094)



M. Koford
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Myotis yumanensis

Jan. 24-5 Zucerne, Lake Co., Calif.

All were active and in the open. At 11:15 S one *Myotis* escaped capture, being very alert and flying fast. See journal.

Jan. 28 1 mi. N Berkeley, Contra Costa Co., Calif.

The *Myotis* (# 46-26901) which we brought back from Zucerne escaped this afternoon at our lot (750' beyond the end of the pavement on Pardue Ave.) Besides the wing band it carried a band (# 46-26790) on the leg. As it circled over the brush a hawk (♀ Cooper's) flew in from somewhere and dove at it once.

Berkeley, Alameda Co.

No bats in Mines Bldg. roof (pergolas)

Feb. 13 Zucerne, Lake Co., Calif.

We banded 17 new and took 9 previously banded. (See journal and banding record.)

Returns:

8:15 46-16383, 16467, 16580, 16799

8:30 16577, 16930

11:00 16573, 16664 (16467, 26904, 26911)

2:30 16525

All were hanging in the open.

Feb. 28 2½ mi. ENE Pescadero, San Mateo Co., Calif.

Under wallpaper in an abandoned house I found one ♀. In a room at the back of the

M. T. Koford
1948

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Myotis yumanensis

Feb. 28

2½ mi. ENE Pescadero, San Mateo Co., Calif.

garage, Carl found a ♂ under wallpaper, and in another room here I found a ♂ under cardboard (wallpaper). All were very torpid and made no noise when first disturbed.

Mar. 5

Lucerne, Lake Co., Calif.

We banded 7 new ♂♂ and took 7 ♂♂ returns.

(See journal & banding record.) Returns:

10:00 N 46 - 16400, 16601

10:00 S 16377, 16567

Mar. 6

1:00 N 16233

1:00 S 16862

9:30 N (16233), 16920

The 5 *M. yumanensis* at 9:30 am in the W cave, only one of which had been taken during the night, were all in cracks so that a wire was needed to catch them. These same cracks had been checked the evening before and on every visit during the night, and with a light we could see to the end of most of them. All were solitary, one between the entrance and the cave-in, 2 on the higher ceiling at the cave-in, and 2 near the back of the south fork.

3 mi. W Healdsburg, Sonoma Co., Calif.

Carl found 1 ♂ in old clothes hanging in an abandoned house. He also found 1 ♂ *M. californicus* here, also in hanging clothes.



M. Koford
1948

Myotis yumanensis

March 25-6 Calaveras Dam, Alameda Co., Calif.

Out of many bats, all apparently myotis, flying over the pool below the dam at dusk, Carl shot two, both ♀ yumanensis. At 10:30 pm there were bats active in the 19-ft. diameter tunnel in the dam but we could not identify them. There were many droppings on the floor, concentrated into piles below rough spots on the ceiling and below where some boards are fastened to the ceiling. The droppings became less numerous farther in and stopped after several hundred yards. In the morning, there were no bats out in the open but we could see some in holes in the ceiling. With a long pole with a wire hook at the end we got 13 out of holes, all ♀ yumanensis. They were torpid enough so that they fell to the floor without flying. These came from 4 different holes, and about 8 came from a single hole.

Aug. 23 1 mi. W Esabella, 2500', Kern Co., Calif.

At 10:00 pm we got 1 ♀ in a mine tunnel with a vertical opening to the surface (besides the regular ^{horizontal} opening). About 10:30 we got a ♂ in the same tunnel, and at 2:30 am another ♂. (just flew in) In a short (10') tunnel nearby we got a ♂ at 10:00. All these bats were active. At 4:30 am Carl found a torpid ♂

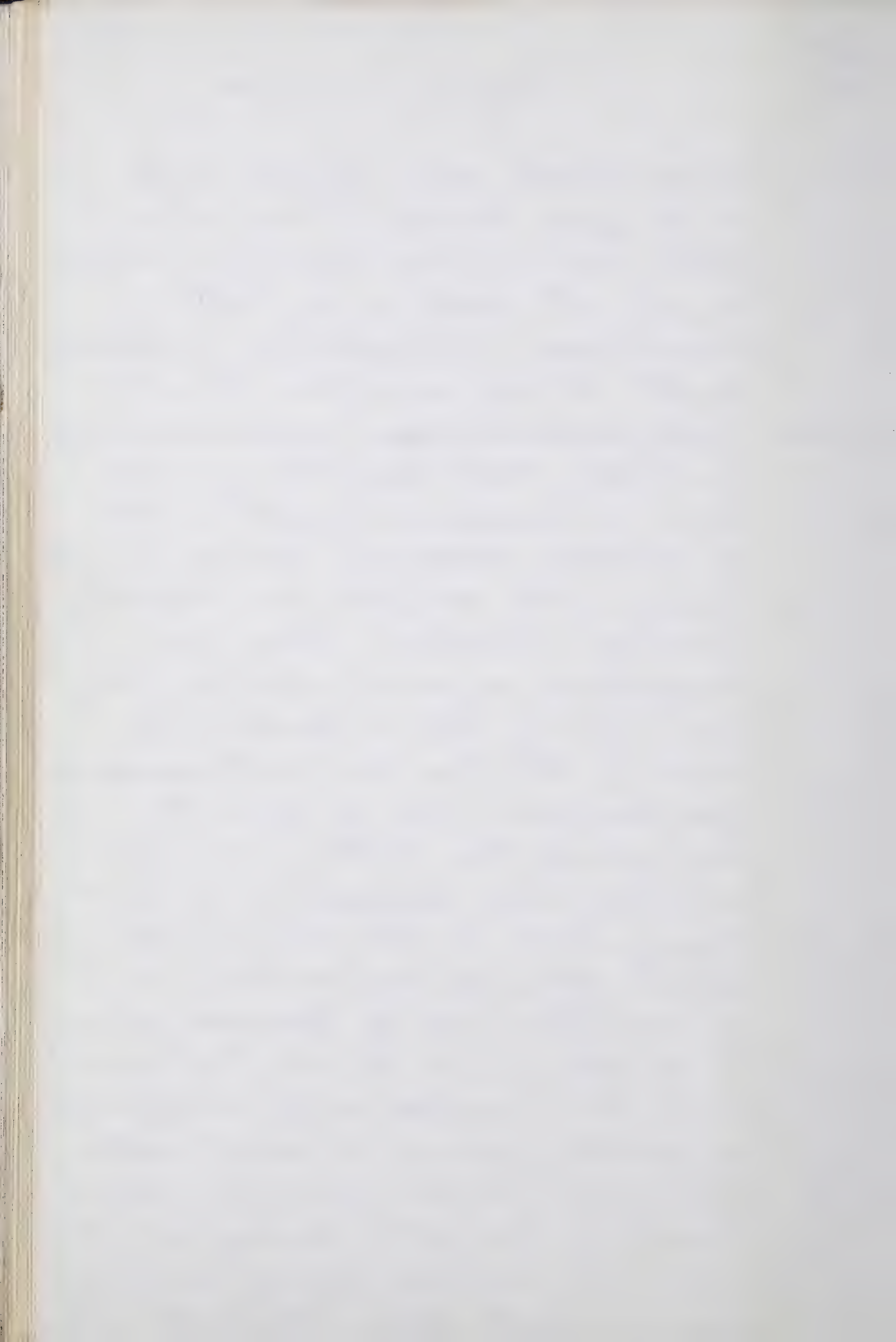


M. Koford
1948

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Myotis yumanensis

- Aug. 24 1 mi. W Esabella, 2500', Kern Co., Calif.
in the first tunnel (the one where we slept) and another torpid ♂ in another tunnel with water in the bottom.
Corynorhinus, M. thysanodes, & M. californicus caught at this same time were active.
- Sept. 30 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.
In the abandoned house here, we have found M. yumanensis and other bats on numerous occasions, usually in winter, singly under wallpaper or in old clothes hanging in the attic. There were Corynorhinus as usual under the house, but the only bat we found in the house or attic this time was M. yumanensis, and there were more of them than we have found here before. Carl found 2 singly under wallpaper and 2 more flying which he thought he had chased from similar positions. One of these flew into the basement, where we caught it. In the old bathing suit in the attic were two, one of which escaped. In another garment we caught another. In a space between two walls, entered through a horizontal opening in one room a few feet below the ceiling we could hear a group of bats. We chased out



M. Koford
1948

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Myotis yumanensis

Sept. 30 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

a few by pounding on the wall and caught 2 (♂, ♀) which we thought had come from this place. We could hear another group in the roof near the top of the attic stairs. The 8 caught were 5 ♂♂ & 3 ♀♀. I banded and released 3 ♂♂ & 1 ♀.

Lucerne, Clear Lake, Lake Co., Calif.

At 6:00 pm (daylight saving) there was one torpid ♂ in the north cave (46-16186) and one unbanded ♀ in the south.

At 8:30 pm there were none in the north, and 4 (3 ♀♀, 1 ♂) in the south (46-26116, 26122, 26882, & 1 new-kept). At 10:00 pm when we entered the north cave some were hanging quite near the entrance. We got 18 (14 ♀♀, 4 ♂♂). Only 4 ♀♀ and 2 ♂♂ were unbanded. We kept these 2 ♂♂ and one of the ♀♀. The banded ones were (see banding record): ♂♂ 16186, 16204; ♀♀ 16219, 16909, 26050, 26063, 26342, 26398, 26406, 26475, 26615, 26887. At 10:30, south cave, 2 ♂♂, 9 ♀♀, & 1 escape. 1 ♂ & 5 ♀♀ were unbanded. The banded ones were: ♂ 16712; ♀♀ 16219, 16232, 26036, 26867. This was our last visit for the night and there were none in



M. Troford
1948

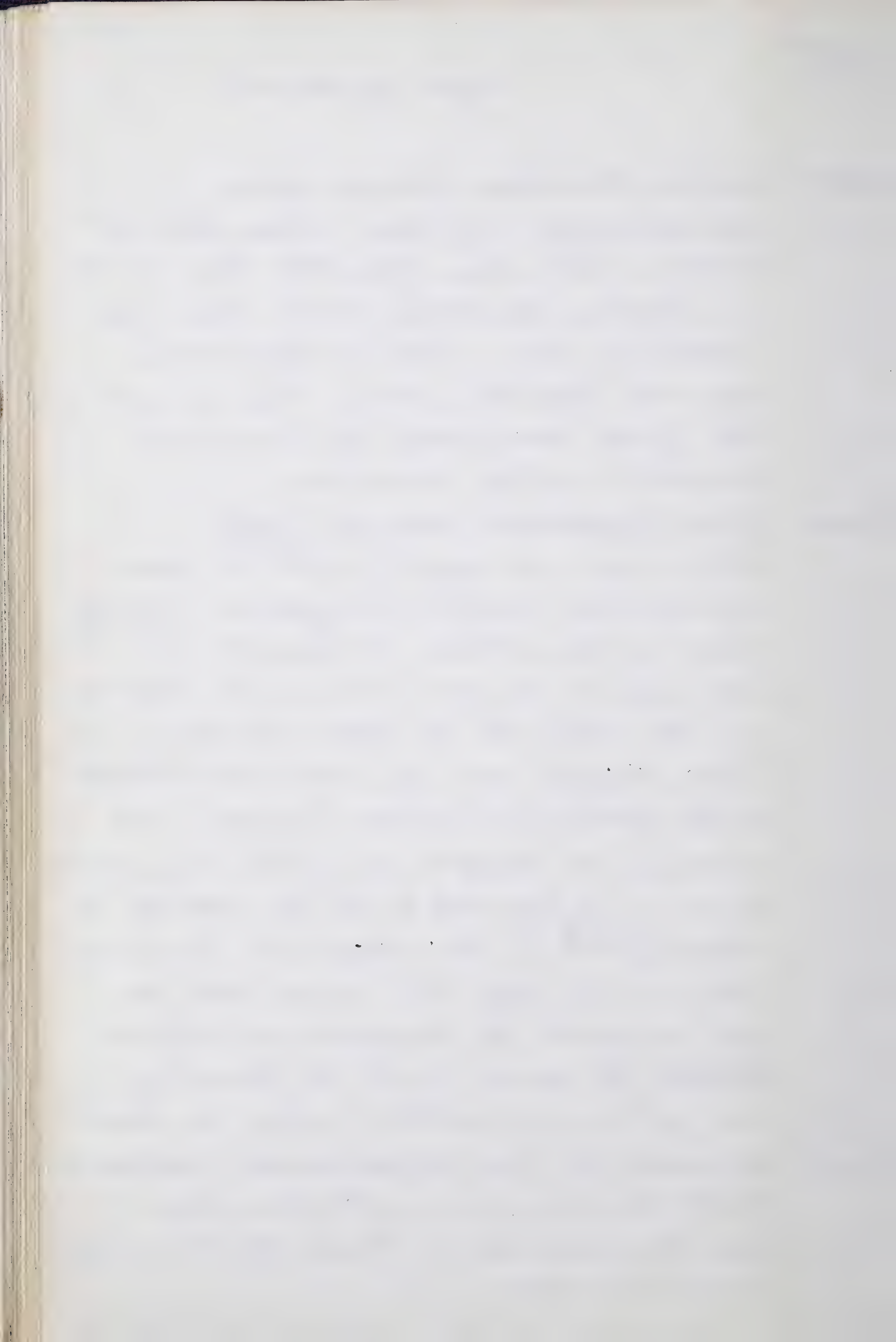
49

Myotis yumanensis

Sept. 30 Zucerne, Clear Lake, Lake Co., Calif.
the morning. Of the 4 banded ♂♂ taken, two were banded Sept. 28, 1946 (1 retaken Oct. 19 '46) and taken again Sept. 24, 1947, and a third was banded Sept. 24, 1947. This in spite of the fact that more ♂♂ have been banded on other occasions!

Oct. 20 1.3 mi. SE Inverness, Marin Co., Calif.
At 8:30 pm we caught 1 ♀ ^{flying} in the room downstairs next to the garage. At the ^(flying) foot of the stairs we caught 1 ♂ + 1 ♀. We could see 3 or 4 behind a board on the wall at the stair landing. The three caught were banded and released at the foot of the stairs (inside). At 10:00 pm we caught one of the banded ♀♀ and an unbanded ♂ at the foot of the stairs ^{both flying} and in the adjoining furnace room. We kept the unbanded one and released the banded one outside. ~~Behind~~ ^{Under} the board and the landing we got an unbanded ♀, which we kept.

Nov. 14 Tuolumne R., 900', 2½ mi. ESE Jacksonvillle, Tuolumne Co.
Under the bridge, in a crack from which I have taken Tadarida, Dr. Pearson found a torpid ♀ at about moon.



M. Koford
1948
-9

Myotis yumanensis

Nov. 23 Zucerne, Clear Lake, Lake Co., Calif.

new

returns (0 = caught previously tonight)

7:30 N 1 ♂

S 2 ♂♂

9:00 N 5 ♂♂

2 ♂♂ + (1 ♂)

9:20 S 5 ♂♂

4 ♂♂ + (2 ♂♂)

11:30 N 3 ♂♂

~~1 ♂ + (1 ♂)~~ (2 ♂♂)

S 3 ♂♂

~~1 ♂ + (2 ♂♂)~~ (3 ♂♂)

8:00 am N

(1 ♂)

numbers of returns:

46-16456, 16494, 16525, 16807, 26821, 26910

March 19 1 mi. NE Sulphur Bank mine, Lake Co.

Dr. Benson found one in the bathing suit in the attic.

Zucerne, Lake Co.

In the tunnels (daytime) we found only 1 ♂, in the drill hole at the back of the right fork of the north tunnel.

April 2 Pit River, 3000', 11 1/2 mi NE Burney, Shasta Co.

Just before dark, Anita found 1 ♀ in a crack in the wall of a chalk cave. ♂♂ became active quickly on disturbance.

April 10 2 mi. S Vidal (San Bernardino Co.), Riverside Mts., Riverside Co.

In one tunnel at the level of the canyon floor we found two ♂♂ before dark in separate holes. Both holes were contained wood stakes and the bats were between these and the dirt.

Myotis yumanensis

April 11 4 mi. E Blythe on Colorado River, Riverside Co., Calif.
In cracks in the wooden part of the bridge over the west bank of the River we found 20 ♀♀ mixed with Tadarida and Eptesicus. Some more Myotis escaped. They were not visibly pregnant.

May 12 Lucerne, Lake Co., Calif.
We got 32 new ♀♀, 10 new ♂♂, 33 ♀♀, 10 ♂♂ returns. Some were probably lucifugus. See journal for times.

46-16168 Sept 28 '46

191 Sept. 28 '46, Mar. 29 '47, Apr. 19 '47, May 4, & 14 '47

209 Sept. 28, '46,
Mar. 29 '47, Apr. 20 '47.

256 Sept. 28 '46, Mar. 8 '47, May 3 '47

307 Sept. 28 '46 (Hotel)

26031 Apr. 19 '47, Sept. 24 '47.

334 May 3 '47, June 12 '47.

349 May 3 '47.

371 May 3 '47.

375 May 3 '47.

395 May 3 '47.

398 May 3 '47, June 12 '47, Sept. 30 '48.

~~415~~

421 May 3 '47.

423 May 3 '47.

433 May 3 '47.

~~462~~
~~294~~ May 23 '47, Aug. 11 '47

468 May 23 '47

475 May 23 '47, Sept. 30 '48

~~488~~

M. Koford
1949

Myotis yumanensis

May 12 Zucerne, Lake Co., Calif.

46⁵ 26607 June 12 '47
615 July 14 '47, Sept. 30 '48
617 July 14 '47.
826 Aug. 10 '47.
827 Aug. 10 '47
833 Aug. 10 '47
846 Aug. 10 '47
867 Sept. 24 '47, Sept. 30 '48.
885 Sept. 24 '47.
887 Sept. 24 '47, Sept. 30 '48.
894 Sept. 24 '47
998 Sept. 30 '48
999 Sept. 30 '48

47-274 (♂) Nov. 23 '48

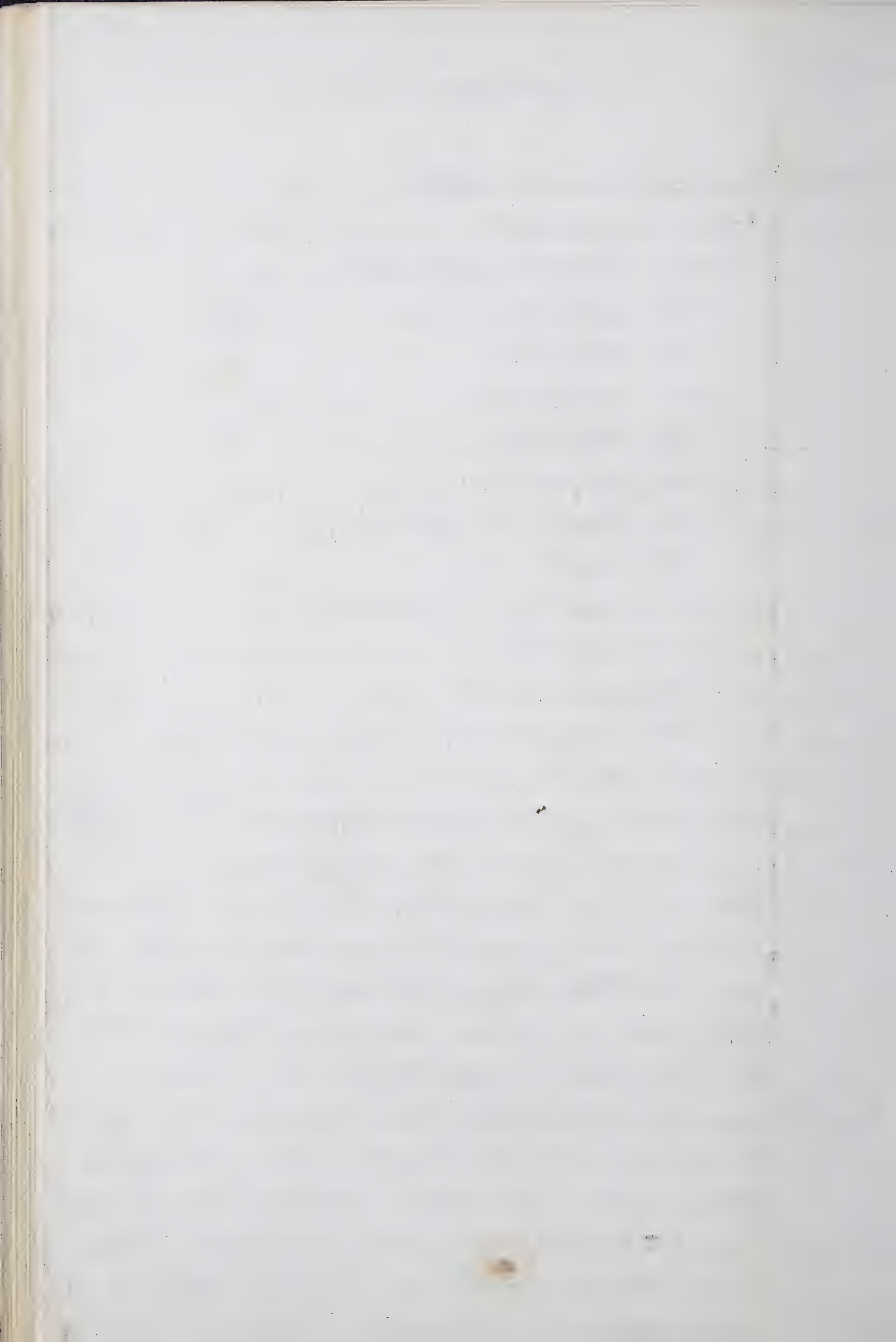
See banding record for complete data (time of capture etc.)

June 4 Aetna Mine, 1100', Napa Co., Calif.

At 9:30 pm we caught a ♂ in a mine tunnel (see Corynorhinus account). It was rather sluggish so that when I knocked it down with my hand I was able to pick it up before it flew.

Aug. 18 1 mi. NE Sulphur Bank Mine, Lake Co.

We chased out at least 10 from hanging garments in the attic. Two which we caught (and banded) were ♂♂ (possibly M. lucifugus). We also heard others in the wall on the stairway.



M. Koford
1949-50

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Myotis yumanensis

Aug. 18 Zucerne, Lake Co., Calif.

at 9:30 pm there were 4, 3 ^{♀♀}~~♂♂~~ & 1 ♂, all banded, in the north tunnel. The ♀♀ were banded April 19 (1) and May 3 (2), 1947 and the ♂ May 12, 1949. (#46-26092, 350,444 & 47-323)

Aug. 19 Sulphur Bank Mine, Lake Co.

In the roof of one of the abandoned mine buildings is a colony of at least several hundred between the corrugated iron roof and the boards supporting it.

Sept. 20 Berkeley

Mrs. Florence Henderson reported taking of banded bats 46-15723 & 15917 in the attic of a house at Tahoe Vista in the fall of 1947 by Mr. O.H. Sanders. They were banded July 29, 1946 at the Brockway Hotel.

Oct. 19 Cassel, 3100', Shasta Co.

In a room of the old creamery where Pearsons have found many *Myotis lucifugus* & *yumanensis* night-roosting this summer, we found a torpid ♂ *yumanensis* and a *thysanodes* clinging together in the open in the middle of the day.

Feb. 17 Zucerne, Lake Co.

Received dead bat found at hotel 46-26345 banded in south tunnel May 3, 1947.

m. Koford
1950

54

Myotis yumanensis

March 11 1.3 mi. SE Inverness, Marin Co.

Behind the board on the wall at the stair landing of Golden's barn were 3 and behind the metal sheet on the adjacent wall was one along with Myotis californicus and thysanodes.

We caught and banded 1 of those behind the board and the one behind the tin — a ♂ & ♀ but I don't know which was in which place.

April 15 1 1/4 mi. E jct. North & middle fr. American R., 700', El Dorado Co.

On the second story of a 4-story wood frame structure, several cracks in the ceiling contained mixed M. yumanensis and Tadarida.

We got out 3 Myotis, all ♀♀. They did not fly when disturbed, but tended to crawl out of reach in the cracks (late afternoon).

April 16 In a cabin above this structure we found a ♀ after dark.

1/4 mi. SW jct. north & middle fr. American R., 550', Placer Co.

1 ♀ after dark inside hollow concrete railroad bridge.

April 18 1 1/4 mi. E jct. north & middle fr. American R., 700', El Dorado Co.

We caught 5 more ♀♀ here this morning from the same crack and many more flew out. They flew much more readily than they had the first afternoon.

M. Koford
1950

55

Myotis yumanensis

April 27 Aetna Springs, Napa Co., Calif.

In the kitchen attic along ~~the~~ with the Corynorhinus colony, was one ♂ M. yumanensis.

May 7 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

In the attic was 1 ♂ (with 2 M. californicus) in one pair of hanging trousers and 1 ♂ in another.

Lucerne, Lake Co.

^{unbanded} 1 ♂, 1 ♀ from a crack in north tunnel before dark, and 3 ♀♀ two hours ^{10 PM} after dark in north tunnel, one banded (26527).

M. Koford
1947-8

(1)

Pipistrellus hesperus - banding record

Sept. 9 5 mi. ESE Porterville, Tulare Co., Calif.

46-26856 ♂

7 ♀

8 ♂

9 ♂

Aug. 23 984 ♂ im

5 ♂ im

6 ♂ im

M.C. Ramage
1945-7

Pipistrellus hesperus

- Sept. 13 Clear Cr., 2800', 5 mi. S NewIdria, San Benito Co., Calif.
We shot one Pipistrellus and 1 Eptesicus in the evening.
- Sept. 14 1 ~~mi.~~ 5 mi. S NewIdria, 3700 ft., San Benito Co., Calif.
Dr. Benson, Mrs. Benson, and Ralph Haun shot 7 Pipistrellus, 1 Myotis subulatus, and 1 Eptesicus by the reservoir in the evening.
- May 2 Silver Creek, 900', 7½ mi. ESE Panoche, San Benito Co.
A Pipistrellus shot by Malcolm Jollie on this date had a small beetle in its mouth. This has recently (Oct. 19) been identified as Platynus maculicollis (Dej.).
- July 15
1946 Berkeley, Alameda Co., California
We received today from Carl B. Koford 8 bats collected July 13 5 mi. ESE Porterville, Tulare Co., Calif. behind the wooden shutters at the home of Mr. L. Richardson. Two were Antrozous and 6 were Pipistrellus — 1 adult ♂, 2 lactating ♀♀, and 3 young (2♂♂, 1♀).
- Feb. 6
1947 1½ mi. above Topock R.R. bridge, Colorado R., San Bernardino Co., Calif.
Carl shot 2♂♂ — see journal.
- Feb. 7
About ½ mi. from the River, in a vertical crack about 1" x 1" and several feet deep in a shale cliff we found 1 ♂. It crawled back out of reach but came out again just before dusk to a point where it could be collected with forceps. ^{#514} Between 5:30 and 6:00

M. Koford
1947

Pipistrellus hesperus

Feb. 7

1½ mi. above Topock R.R. bridge, Colorado R., San Bernardino Co.
there were some small bats, probably mostly *Pipistrellus* hovering about the cliff face and out over the brush on the flat, but not so many as down near the river where Carl shot 2 more ♂ tonight.

June 15

5 mi. ESE Porterville, Tulare Co., Calif.

at Walter Richardson's home where Carl collected the *Pipistrellus* and *Antrozous* last year we found most of the shutters closed leaving no place for bats to hide. A few were open on the front (north) of the house and we found one each behind two of these. One escaped. The one we got was a ♂. On the east side the shutters were open at an upstairs window and behind one of them we got 3 adult ♀♀, 6 young, and one adult ♂. None escaped so far as we know. One ♀ had two young hanging on her, each of the other two had one, and there were two young loose in the bottom of the net. When first seen the bats were grouped toward the top of the shutter except for one (presumably the ♂ since it appeared to have no young on it) which was alone toward the bottom. We mailed them all alive to Berkeley.

N. Koford
1947

Pipistrellus hesperus

Sept. 9

5 mi. ESE Porterville, Tulare Co., Calif.

At Walter Richardson's home where we collected the bats with young this summer, we found some still present ^{behind the shutter}. At the ~~south~~ ^{east} end of the house, shaded at noon, ~~and~~ we got two lone ♂, one in an upper story and one in a lower story shutter, both clinging to the wall. Two others on this ~~side~~ ^{end} of the house both under the same shutter ^(an upper story one) clinging to the shutter both escaped. On the north side, on the porch, we ~~found~~ ^{caught} a ♀ clinging to the shutter. It has apparently been lactating this year. On the patio on the south side of the house in a spot shaded all day we got another lone ♂ clinging to the shutter. We banded and released the four caught. One disappeared to the southeast, one we lost around the corner of the house, one went behind an upper shutter on the east ~~side~~ ^{end} of the house and one behind a lower shutter on the north side.

Sept. 12

Temblor Ranch, 2000', 4 mi. N & 9 mi. W McKittrick, Kern Co., Calif.

4 bats were shot here during the evening but only two were found - both ♀♀. One was seen flying which was a little larger, perhaps a *Myotis*, but most were *Pipistrellus*. This country is quite barren except for a little vegetation around springs and some planted

N. K. Ford
1947-8

4.

Pipistrellus hesperus

- Sept. 12 ^{2000 ft;}
Temblor Ranch, 4 mi. N & 9 mi. W McKittrick, Kern Co., Calif.
trees here at the ranch. There are plenty of rocky areas nearby from which the bats may have come. Both bats were very fat and their stomachs were distended, but with contents unrecognizable.
- April 25 1½ mi. E & 3 mi. N Annette, 1200', Kern Co., Calif.
at twilight there was a good flight of bats down the canyon, mostly Tadarida. Carl shot 5 Pipistrellus, 2♂♂, 2♀♀, 1?. I saved the bodies of the ♀♀ for Dr. Pearson.
- Aug. 13 2 mi. S & 5 mi. E Shandon, San Luis Obispo Co., Calif.
at the water trough where we shot Myotis californicus and subulatus Sept. 10 last year, Carl shot 2♀♀ subulatus and then a ♀ Pipistrellus. I didn't save the skin but kept the reproductive tract which was very small.
- Aug. 17 Hopper Ranch, 2400', 1½ mi. SE Hopper Mtn., Ventura Co.
The first bats to appear were a few Eptesicus, then many Pipistrellus. They were over an open meadow. We got one post-lactating ♀ with very small repr. tract, and 1♂ (shot too badly to save).
- Aug. 18 The Pipistrellus appeared first and we saw very few of any other kind. Carl shot 1♀ and 2♂♂ (1 immature?).

m. Koford
1948-9

Pipistrellus hesperus

Aug. 23 5 mi. ESE Porterville, Tulare Co., Calif.

We caught and banded 3 ♂♂ (immatures?) and released them outside. They flew around as though confused and I kept one in sight for a long time before it disappeared in the distance without having found a roost.

Each was caught behind a different shutter: one behind each of the high shutters at the east end of the house, and one ~~was~~ behind a downstairs front shutter (north).

2½ mi. S & 1 mi. W Wasabella, 2500', Kern Co., Calif.

Carl shot a ♀ (immature?) at 7:45 pm^(daylight saving) on the highway. There were many flying from 7:30 on, mingling with the swallows which didn't disappear until nearly 8:00.

April 11 30 mi. NE Yuma, Yuma Co., Arizona

Carl shot 1 ♀ at dusk.

April 12 Tunco Mine, 5 mi. N + 2 mi. E Ogilby, Imperial Co., Calif.

Carl shot 1 ♂ at dusk.

Ramsey
M. Koford
1946-7, 9, 50

(1)

Eptesicus fuscus - banding record

- July 16 (1946) Tuolumne R., 900', 2 1/2 mi ESE Jacksonville, Tuolumne Co., Calif.
46-15468 juv ♂ "crack IV"
15469 juv ♀ "
- Nov. 30 (1946) 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
16672 ad ♂ Mar. 8, 1947.
Dec. 15 (1948) 3 mi SE Inverness, Marin Co. 41-167952 ♂
- Aug. 18 (1949) Lucerne, Lake Co.
49-123147 ad ♂ 9:30 pm N
123149 ad ♀ "
123150 ad ♀ "
Manhattan mine, Napa Co.
- Feb. 9 (1950) 123444 ? "catacombs tunnel" released at Berkeley some time later

1. C. Ramage
1945

Eptesicus fuscus

1.

June 2

Old Fort Tejon, Kern Co., Calif.

See Tadarida mexicana June 2 & June 4, 1945.

July 8

Walter Springs, 4 1/2 mi. NE Pope Valley P.O., Napa Co., Calif.

We knocked down several bats which were flying about in the attic of the hotel and shot one flying over a flat by the creek a short distance away.

Sept. ~~10~~ ⁹

Forks of Waddell Creek, 100 ft., Santa Cruz Co., Calif.

We saw several bats which were probably *Eptesicus* flying about in the clearing by the sawmill in the evening just before dark.

Sept. 10

Starting bat shooting a little earlier tonight, we got 5 ^{399 1200} *Eptesicus* by the sawmill.

Sept. 11

3 1/2 mi. S Boulder Creek, 1900 ft., Santa Cruz Co., Calif.

Dr. Benson shot one at dusk.

Sept. 13

Clear Creek, 2800 ft., 5 mi. SW New Idria, San Benito Co.

I shot one *Eptesicus* and Dr. Benson shot one *Pipistrellus*.

Sept. 14

1 mi. S New Idria, ^{3700 ft.} San Benito Co., Calif.

Dr. Benson shot 1 *Eptesicus*, 1 *Myotis subulatus*, and a number of *Pipistrellus* by the reservoir.

1 1/4 mi. S New Idria, 3750 ft., San Benito Co., Calif.

Dr. Benson found one after dark in a crack in the ceiling of a mine tunnel about 75 ft. deep in which we had found nothing by day.

1 kept
alive -
died
Sept. 26

C. Ramage
1945

2.

Eptesicus fuscus

Oct. 19

Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.)

This morning I found one ♂ in a corner tile of the west pergola. It was not nearly so active as the Myotis and Tadarida which I have been catching there. Its eyes were closed when I first looked at it, and when I pulled it out it made no effort to crawl away or to fly. It proved to be very fat, with the testes embedded in fat, and with a very orange fat on the muscles at the corners of the mouth and around the ears.

Dec. 2

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

Dr. Benson found 2 ♀♀ together with an Antrozous (♂) & a M. yumanensis (♂) under a piece of wallpaper. In other parts of the same house were 4 more M. yumanensis (♂♂) & a Corynorhinus (♂).

In another abandoned house he found 2 ♂♂ & 2 ♀♀ under wallpaper.

In this house were found also 1 M. yumanensis (♂) and 2 M. californicus (♀♀). All bats were cold and inactive.

Walter Springs, Napa Co., Calif.

In the attic where we got Eptesicus July 8 we found only Tadarida.

M.C. Ramage
1946

3.

Eptesicus fuscus

July 15

Forks of Waddell Creek, Santa Cruz Co., Calif.

Under a loose board in the roof of the cabin where we collected all the Myotis yumanensis Sept. 9, 1945, we got one adult ♂ Eptesicus. Some bats escaped, and there may have been several more Eptesicus. The other bats caught in the roof of this cabin were Myotis yumanensis, adults and young.

July 16

Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.

Under the bridge where we were banding young Tadarida and Myotis yumanensis we found 2 young Eptesicus (♂, ♀) in a crack with an adult ♀ Tadarida and a young ♂ Tadarida, and banded them. In the evening at about the same time the Myotis were flying we saw a number of Eptesicus flying, although they were not so numerous.

Nov. 30
~~Dec. 1~~

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the abandoned house where we collected first Dec. 2, 1945, and have re-visited this year Oct. 20, Nov. 17 & 29, ~~+30~~, we found 1 ♂ under wallpaper, the first of this species since last December. We banded it and returned it to the same spot but we did not find it the next day.

n. Koford
1947

4.

Eptesicus fuscus

March 8

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

Carl
~~We~~ found 1 ♂ under wallpaper in the same room where we banded it Nov. 30.

June 17

Shandon, San Luis Obispo Co., Calif.

In the same garage where we looked Feb. 17 there were at least a dozen *Eptesicus* in a vertical crack between two walls. At noon the sun was shining in and making the space quite light. When disturbed they disappeared from this space and we could not determine where they had gone. All we could get were two mummies, both immatures.

June 21

Berkeley I put the ♀ which I have kept alive for the last year and a half into the fur room where I kept it the first winter. It is fat and apparently in good health.

July 12

The bat in the cold room is dead. The only apparent difference between the situation now and the time I kept it here three weeks and more at a time is that at the time I put it in before the bat was in a torpid condition.

Aug. 12

Smith R., 2 mi. N Fort Dick, Del Norte Co., Calif.

We camped here under the bridge. Many bats were flying at dusk over the river and the

M. Koford
1947-8

Eptesicus fuscus

- Aug. 12 Smith R., 2 mi. N Fort Dick, Del Norte Co., Calif.
flat area near the river. Most of them appeared to be Eptesicus. The two Carl shot were an adult ♀ and an immature ♂. He also shot a Myotis yumanensis.
- April 11 Merced R., 5 mi. E Newman (Stanislaus Co.), in Merced Co.
At the south end of the bridge on which the highway crosses we found 9 ♀♀ in a crack only 4' or less from the ground. There was a ridge of droppings under the crack. I gave 2 to Hildebrand and 1 to Krutzsch for specimens, and gave the reproductive tracts to Pearson.
- April 12 ^{Berkeley} Two escaped from L.S.B. without bands.
- April 20 One recovered (probably one of these) in sink in Stebbins' room, alive.
- April 28 One was dead this morning (M.K. 666). It has been in a cage at room temperature since capture with water and moistened dogfood available. Death was apparently from starvation. I killed two more. One (R.W. Storer 801 - for class collection) was the one found in Stebbins' sink April 20. Since then it has been kept under conditions described above. The other (M.K. 669) has been in the bone room (temp.) since the day after capture with water available but no food. I gave the reproductive tracts of all 3 to Dr. Pearson.
- April 30 I killed another today (M.K. 678). It has been, since capture, without food, in the bone room most

M. T. Ford
1948

Eptesicus fuscus

6

April 30 Berkeley (Merced Co. bats)

of the time, but out on several occasions for a sufficient time to become active, and from April 21 to 28 in our refrigerator at home at a temperature of less than a degree above freezing.

May 1 I killed the last of these bats today. ^(M.K. 679) Since capture (April 11) it has been in a cage at room temperature with water and dog food (which it apparently did not eat). I gave the reproductive tracts of both bats to Pearson.

May 22 Pinnacles Nat. Mon., San Benito Co., Calif.

Kent Carnie found a ♂ lying on top of a rock in a large cave in the "old pinnacles" at 8:00 pm. It was dead the next morning.

Aug. 15 Cammatti Cr., 1450', San Luis Obispo Co., Calif.

The first bats to appear over the Sulphur Trough were Eptesicus. They were flying high over the trees. Carl shot ^{very fat} 2 ♀♀ (both immatures I think). We saw several others. One was wounded and went down into the trees. Searching in this spot, Carl found one hanging in the foliage of an oak. He threw a rock at it, thinking it was the wounded one, and to our surprise it flew away.

M. Koford
1948

Eptesicus fuscus

- Aug. 17 Hopper Ranch, 2400', 1 1/2 mi. SE Hopper Mtn., Ventura Co.
The first bats to appear were a few Eptesicus, flying high ^{& fast} over the meadow. Carl shot 1 ♀ (immature?) - very fat, and 1 ♂ shot too badly to save.
- Aug. 18 The Pipistrellus appeared first tonight but we did see one we thought was Eptesicus.
- Oct. 1 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.
In a ^{vertical} space between the boards in the wall of the barn at the abandoned house here we caught 2 Eptesicus (♂, ♀) and 3 Tadarida (♀♀). Other Tadarida escaped. The space was accessible from either inside or outside the barn. The 2 Eptesicus were separated about 6" from the nearest Tadarida. They did not become active as quickly as the Tadarida.
- Dec. 14 1.3 mi. SE Inverness, Marin Co., Calif.
Just before dark we took a ♀ Eptesicus from behind the tin on the stair landing where we have found M. californicus before. There was another bat there (Eptesicus?), which we left. at 8:00 pm we could see no bats behind the tin and the ♀ we got earlier had escaped from the net in which we had left it. at 10:00 pm there were again two

M. Koford
1948-9

8

Eptesicus fuscus

- Dec. 14 1.3 mi. SE Inverness, Marin Co., Calif.
bats behind the tin. They were still there in the same positions at 12:00, 3:00 a.m., and in the morning. We took them out to band them. One was a ♂ Eptesicus, the other a ♀ Myotis californicus. They were so torpid that we had trouble making them hang or when we put them back. The temperature inside at 10:00 p.m. was 44°, outside 42°. At about 6:00 a.m. it was 35° inside, 28° out.
- April 11 4 mi. E Blythe on Colorado River, Riverside Co., Calif.
In cracks in the wooden part of the bridge over the west bank of the River we got 3 ♀♀ - one alone in a crack and 2 with Myotis yumanensis and Tadarida.
- Aug. 18 Zucerne, Lake Co.
At 9:30 p.m., in the north tunnel, were 3 Eptesicus, the first time we have taken this genus here during all our banding operations. We banded and released them, 2 ♀♀, 1 ♂, all very fat.
- Nov. 10 Manhattan Mine, 2000', 2 mi. NW Knoxville, Napa Co.
In one well-ventilated, much-branched mine we saw 2 torpid hanging together and another in a crack just before dark. At 4:00 a.m. all were gone.
- Feb. 9, 1950 In the same tunnel we found one hanging in the open. later released at Berkeley

M. Koford
1950

9

Eptesicus fuscus

April 17 1 1/4 mi. E just north of middle of American R., 700', El Dorado Co.

Eptesicus and *Tadarida* were night-roosting in cracks in the ceiling of the ground floor of a 4-story frame structure. By shooting into the cracks we got 8 or 10 *Eptesicus* - all ♀♀.

M. Koford
1948
-9

(1)

Zasius borealis - banding
record

April 27 4 mi. S Mendota, Fresno Co.

42-138133 ♂ found dead by worker between
April 27 and Aug. 26

4 ♀

5 ♀

3 mi. W Firebaugh, Fresno Co.

7 ♀
Firebaugh

138112 ♀

3 ♀

6 ♀

7 ♀

8 ♀

1 mi. S Firebaugh

138138 ♀ kept

9 ♀

40 ♀

1 ♀

2 ♀

3 mi. W Firebaugh

3 ♀

4 mi. S Mendota

5 ♀

6 ♀ May 18, 1949; May 23, 1950 preg.
preg.!

7 ♀

8 ♂

May 18, 1949 1 mi. S Firebaugh

C. 161788 ♀ preg.?

M.C. Ramage
1945

Lasiurus borealis

April 19

1 1/2 mi. NNE Firebaugh, Fresno Co., California

I found one female bat in a row of about 10 Tamarisk trees running north & south. The bat was hanging about 15 ft. from the ground in the needles on the east edge of the tree.

3 mi. SW Firebaugh, Fresno Co., California

Walt found 3 bats hanging about 30 ft. or more from the ground in Tamarisk trees around a ranch house. He also shot one of several which flew around these trees at dusk.

April 20

Walt collected one more bat in ~~about~~ the same sort of situation as those of yesterday.

7 mi. SW Mendota, Fresno Co., California

Walt found two on the south side of a row of Tamarisk trees about a mile long running east and west. He also found 3 *Lasiurus cinereus* here.

I found 3 in Tamarisks around a reservoir. Two were females, ~~both~~ ^{one} found on the north side of the square of trees, on the south side of the trees, in the needles well out towards the ends of the branches about 20 ft. above the ground. The other was a male, on the east side of the reservoir, on the west side of the tree, in about the same sort

N.C. Ramage
1945

2.

Lasiurus borealis

April 20 7 mi. SW Mendota, Fresno Co., California

of place except that the cluster of needles in which it was hanging was less dense. After it was shot it

~~April 21~~ flew across to the edge of the trees on the north side before it fell. The other female was on the south side of the south row of trees in a very dense cluster of needles 5 ft. from the ground. It was kept alive until April 23. Walt got 1 *Lasiurus cinereus* ^{reservoir} at this.

April 21 At the next reservoir I found two red bats, both males. One was on the south side of a tree on the north side of the reservoir 20 ft. up in a fairly open cluster of needles at the end of a branch. The other was at the southeast corner of the reservoir about 30 ft. up, near the center of the tree. Walt got 2 more red bats at this reservoir and I got 2 hoary bats. I walked along the south side of the east half of a 2-mile row of Tamarisks running east & west. I found 3 red bats, all females, all near the ends of branches about 20 ft. up, and about evenly spaced over the distance I covered. I also got one hoary bat in the row ^{I saw another,}

Ramage
1945

3.

Lasiurus borealis

May 1

Mendota, Fresno Co., Calif.

Walt shot 1 ♀ about 20' up on the ~~west~~^{south} side of a tree in a row of Tamarisks on the ~~west~~^{south} side of the school yard. Lillian saw one in a similar position on the west side of another short row of trees running north & south. We chased this one into 3 different Tamarisks before we finally lost it. Each time it flew when we had almost reached it (when my hand was about a foot from it — I did not touch the tree so it was not aroused by movement of the branch). It seemed to hang up anywhere — high or low — in very open spots rather than in the needles as the bats are usually originally found. It clung by both wings & feet to the twigs rather than hanging vertically by the hind feet. It flew past several kinds of trees but always seemed to alight in the first Tamarisk tree. In the last tree where it lit we saw another one in a very dense cluster of needles 25 ft. up on the east side of a row on the west side of a yard. A small boy shot it

C. Ramage
1945

4.

Lasiurus borealis

May 1

Mendota, Fresno Co., California

with a B-B gun, and then knocked it down with a rock.

1 1/2 mi. S Mendota, Fresno Co., California

We stopped at a spot where there were Tamarisk trees around a yard and also around a reservoir just to the south of the yard. On the west side of the yard in the east side of a tree I found 4 female red bats hanging together in a tight cluster. In a very tall Tamarisk beside a garage toward the east edge of the yard the owner pointed out two red bats. Walt shot one and the other got away. They must have been 50 ft. from the ground. On the west side of the reservoir I found one toward the west side of the windbreak which was several rows of trees wide. It flew when shot eastward toward the water. Upon searching, I found it again lying on the ground near the water's edge. As I approached it took off from the ground with apparent ease and flew out over the water where I lost it.

7 mi. SW Mendota, Fresno Co., California

I found one ♂ on the south side of a

H.C. Ramo
1945

5.

Lasiurus borealis

May 1

7 mi. SW Mendota, Fresno Co., California
Tamarisk windbreak. We searched in another windbreak and two reservoirs in which we found both red and hoary bats on our last trip a little over a week ago, but found no bats. The weather is a little hotter than it was last time we were here.

May 3

Walt found 1 ♂ in a windbreak.

Sept. 16

3 mi. SW Mendota, Fresno Co., Calif.

I found 1 ♂ and Dr. Benson got 1 ♀ in Tamarisks in one yard - about 20 to 25 ft. up in the trees. At a reservoir Dr. Benson got 1 ♀ in the SW corner on the inside at about the same height. At the same reservoir I found 3 ♂'s hanging together about 11 ft. up on the south side of the north border of the reservoir. One got away. At another reservoir, I found 1 ♂ on the east edge of the east border about 25 ft. up.

7 mi. SW Mendota, Fresno Co., Calif.

Dr. Benson got 3 ^{2 ♂, 1 ♀} in windbreaks - all on the south side - one in a line where we saw a Hoary Bat, and 2 in another line (one within reach of the net).

M. Koford
1948

6.

Lasiurus borealis

April 10 4 mi. S Mendota, Fresno Co., Calif.

We got one ♀ on the south side of the north line of trees around a reservoir, about 25' from the ground and quite torpid. We looked quite thoroughly here and at several other groups of trees without finding any more. The muddy roads kept us from reaching most of our usual spots. Carl caught the bat alive with a net. It died April 12 and Krutzsch kept the skin. I gave the reproductive tract to Pearson.

April 27 4 mi. S Mendota, Fresno Co., Calif.

81 hoary
At the same reservoir we got 7 red bats ⁱⁿ less than an hour's searching. 3* were in the trees around the reservoir and were collected by shooting. ~~The other~~ 3 were in the trees by the house and were caught alive in the net. One was in the row by the highway (shot). We saw one (or perhaps two) other ^{in this row} ~~here~~ which escaped. Looking near the spot toward which it had flown we found one hanging lower than any others (about 10' from the ground) which may have been this same bat. This one also ^{when we tried to get it with a net,} escaped. All the bats were active today in contrast to the torpidity of the one April 10. All (except the one mentioned) were from 15' to 25' up and easily seen from below. We put

M. Koford
1948

Tasiurus borealis

April 27

4 mi. S Mendota, Fresno Co., Calif.

up the four dead ones (♀♀) on the spot in order to save the reproductive tracts for Dr. Pearson. I banded and released the three live ones: a ♂ (42-138133) found hanging alone and 2 ♀♀ (42-138134-5) hanging together (the only case of this which we saw). (see map p. 8)

3 mi. W Firebaugh, Fresno Co., Calif.

We drove west from Firebaugh on a road starting south from the railroad station and stopped for a quick look at some trees by a group of houses. We caught and banded a ♀ (42-138137). (see map p. 8)

May 2

Firebaugh, Fresno Co., Calif.

at the western city limit of Firebaugh we banded ^(42-138112, 3, 6, 7) 2 pairs of ♀♀ hanging together, and at least 5 more, all hanging singly, escaped. all were in tamarisks, from 8' to 25' from the ground, and all active. (see ^{p. 8} map) a little farther into town, we found two more hanging together. One escaped and we banded the other (42-138118).

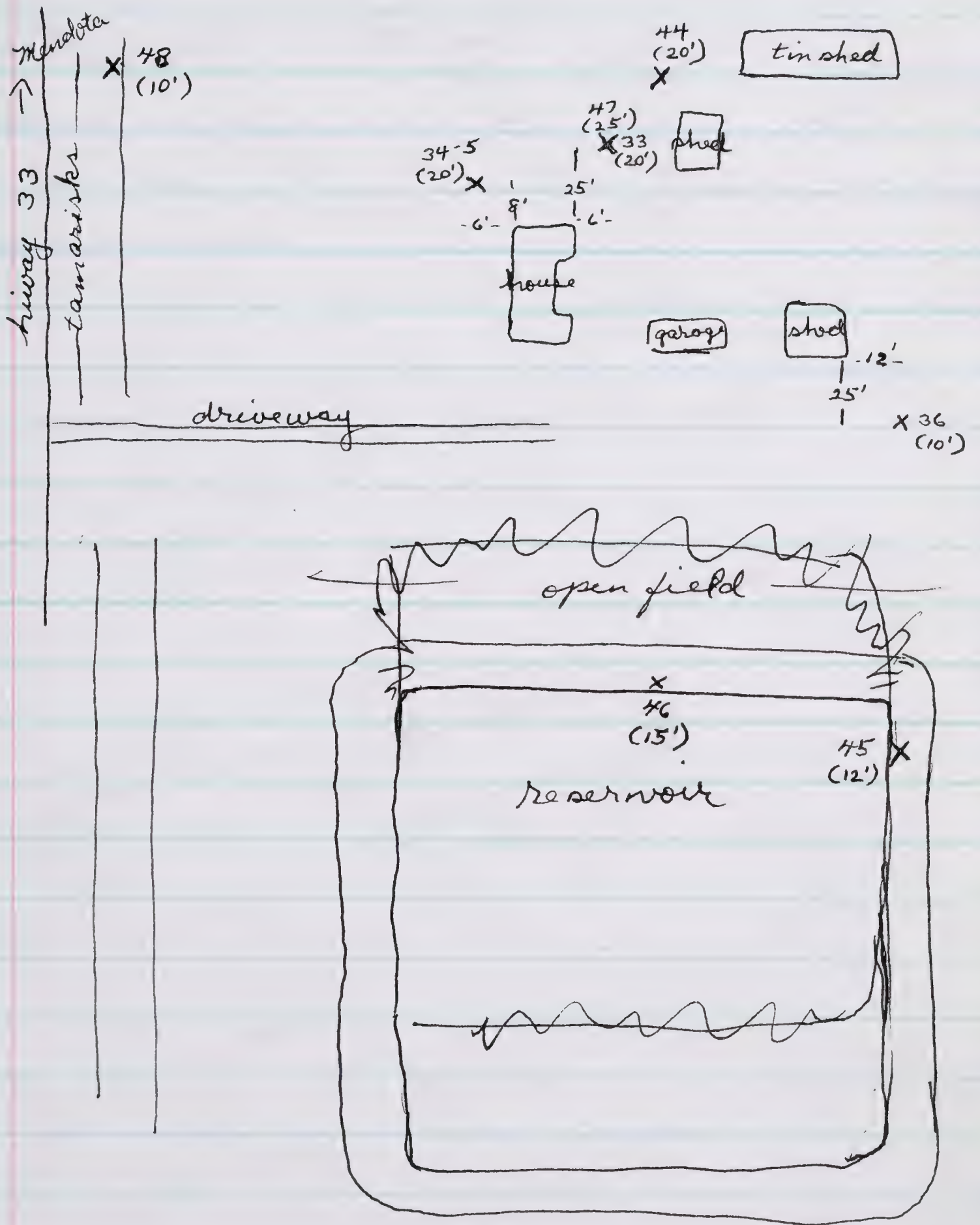
1 mi. S Firebaugh, Fresno Co., Calif.

We took the same road south from town as on April 27, but took the left fork just after it crosses the canal and drove to the

M. Koford
1948

Lasiurus borealis

April 27 4 mi. S Mendota, Fresno Co., Calif.
- May 2

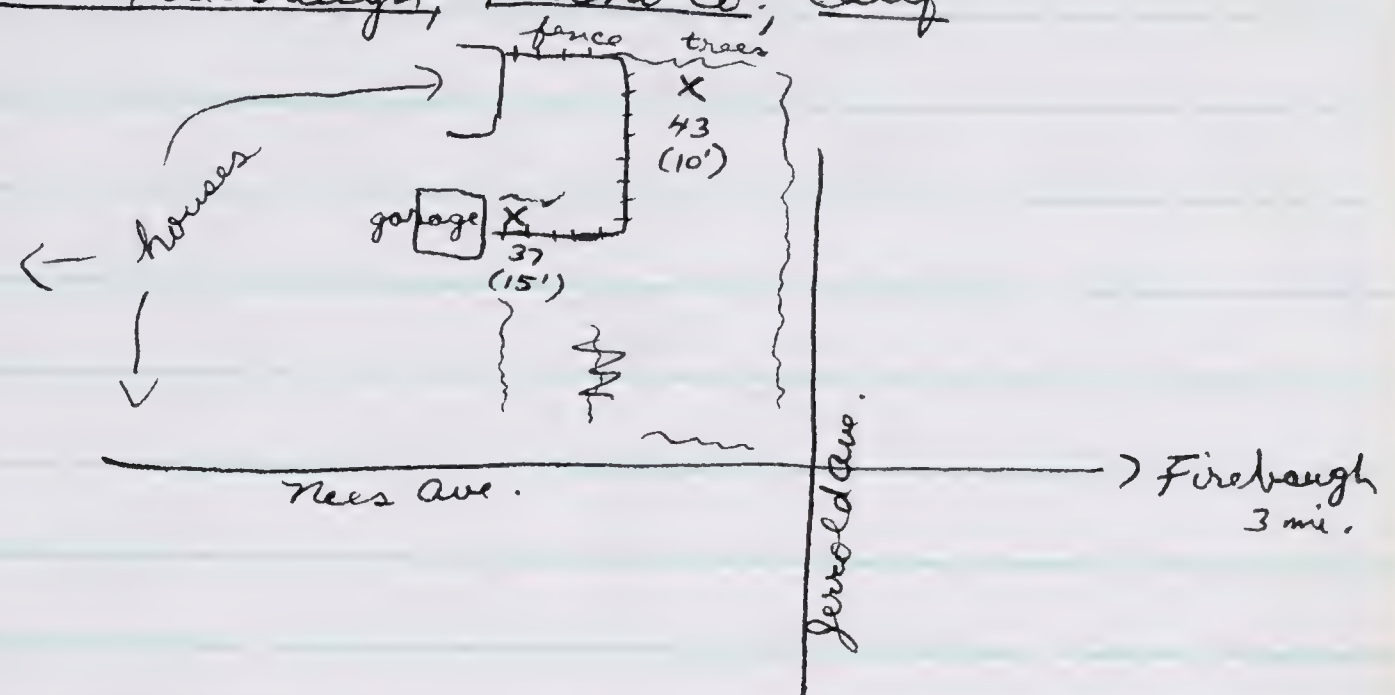


M. Koford
1948

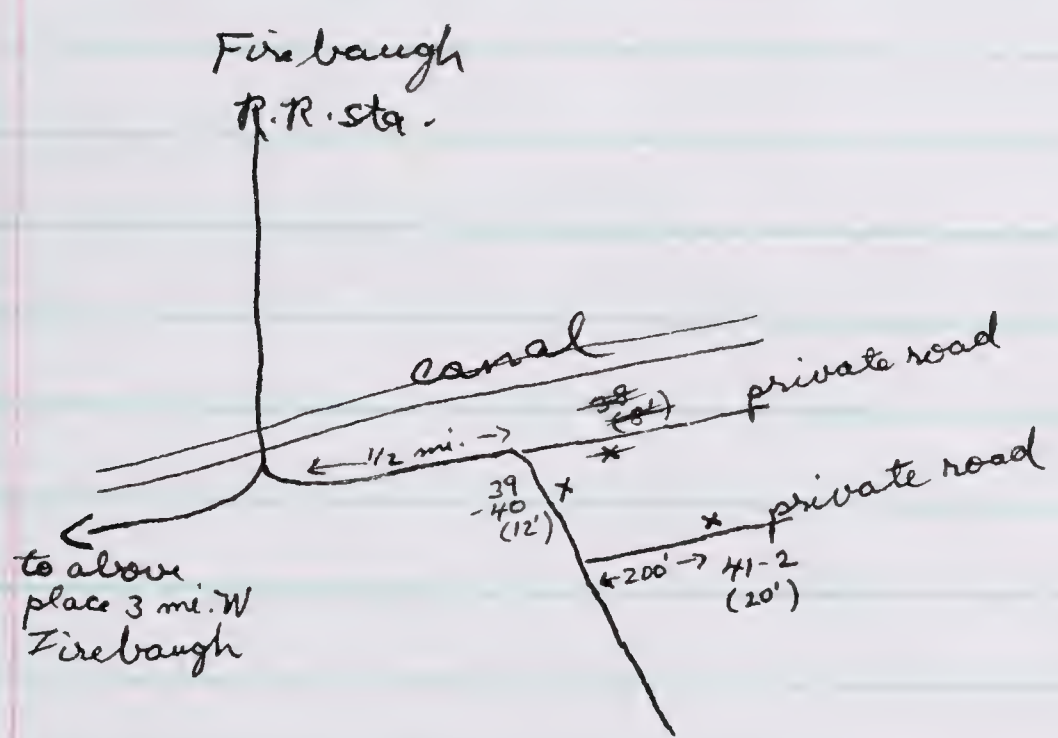
Lasiurus borealis

April 27
- May 2

5 mi. W Firebaugh, Fresno Co., Calif.



1 mi. S Firebaugh, Fresno Co., Calif.



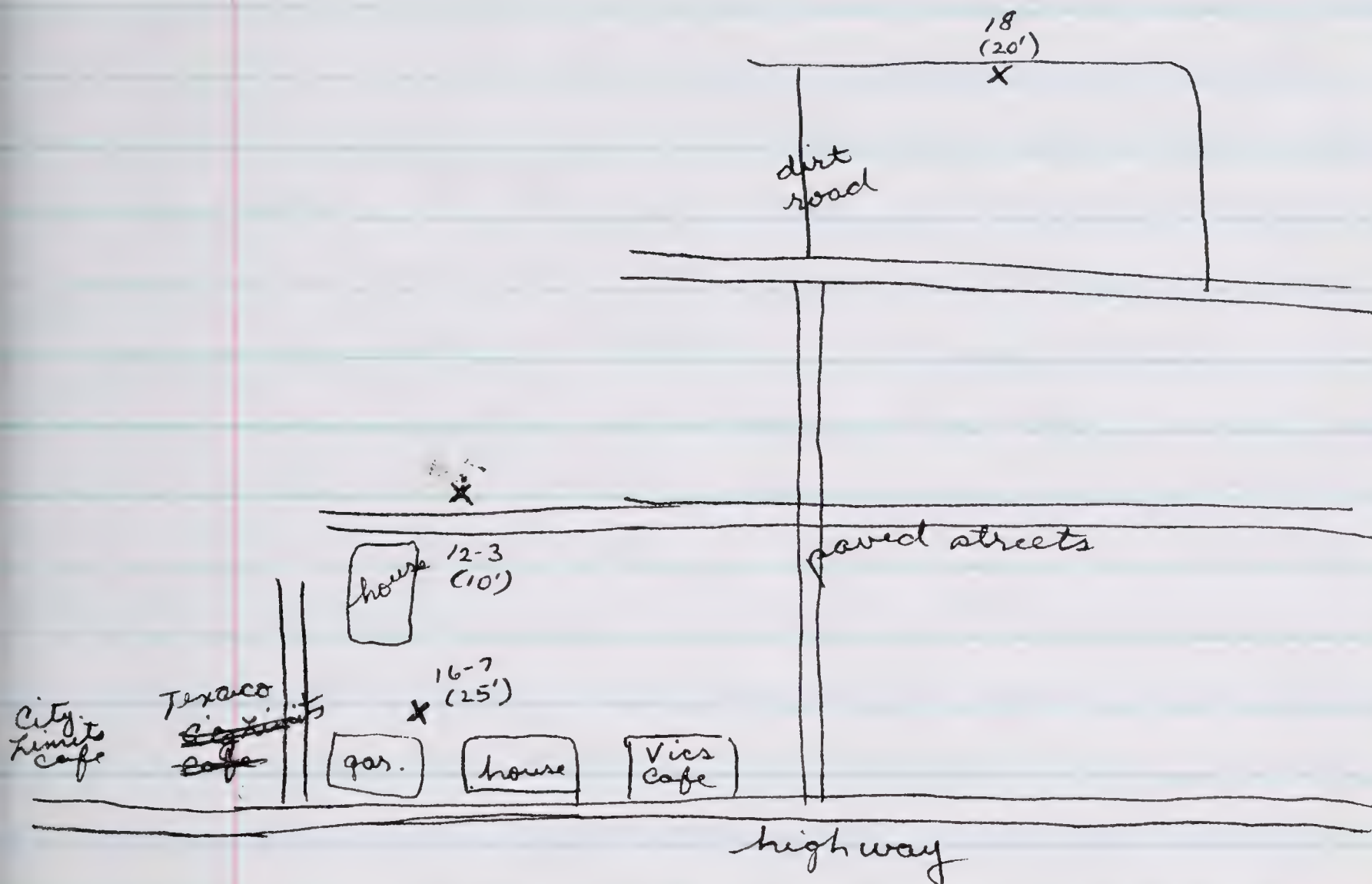
M. Koford
1948

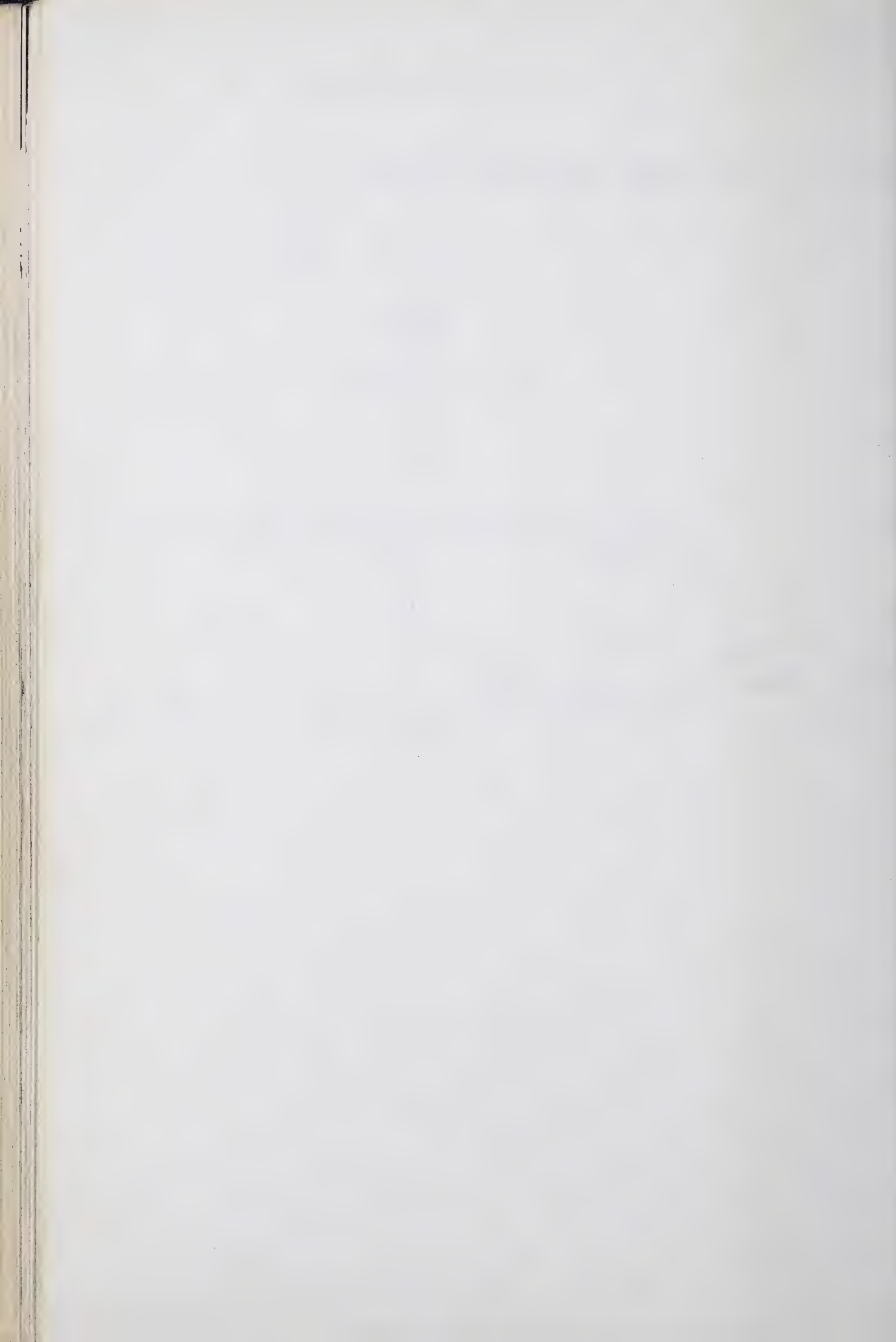
86

Zasiurus borealis

May 2

Firebaugh, Fresno Co., Calif. river





M. Koford
1948

9 #

Zasiurus borealis

May 2

1 mi. S Firebaugh, Fresno Co., Calif.

first group of trees on this road - in a garden around a large house. Here we banded

(42-138139-42)

2 pairs of ♀♀ found clinging together and kept 1 ♀ hanging alone, and one more lone bat escaped. All were in tamarisks, 8' to 20' up, and all active. (see map p. 8a)

3 mi. S + 5 mi. W Firebaugh, Fresno Co., Calif.

At one reservoir here we got ^{2 ♀♀ hanging together} ~~a single ♀~~ 8' up on the west side of a tree near the SE corner of the reservoir and at another reservoir we got a lone ♀ 20' up on the south side of tree near NE corner of reservoir. These 3 were saved as specimens (M.K. 682, R.W. Stores 802-3).

Tamarisks are the only trees out here, in contrast to the other places we collected where there are cottonwoods, eucalyptus, willows, etc. These trees are much denser and harder to see into than the tamarisks around the houses. These bats were also active.

3 mi. W of Firebaugh, Fresno Co., Calif.

On the way back to Firebaugh we stopped at the place where we banded the bat April 27. Here we banded another lone ♀ (42-138143), also active. (see map p. 8a)

4 mi. S Mendota, Fresno Co., Calif.

At the reservoir where we banded bats April 27, we banded 3 lone ♀♀ (42-138145-7),

M. Kofoed
1948

10

Zasiurus borealis

May 2

4 mi. S Mendota, Fresno Co., Calif.

two at the reservoir and one at the house, and
(42-138148)
one ♂ in the row by the highway. In
contrast to all the others, the ♂ was torpid.
We saw one other in the trees by the house
which we could not reach (30' up). In the
row by the highway we got one ♀ with a
broken leg (specimen P. H. Krutzsch) in about
the same place where we shot one April 27
which flew away. This was the only bat
shot at this locality which escaped, and
the injury looked very much like those of
the other bats shot with the pellet gun
which Carl was using and appeared to be
~~at~~ about the right stage of healing. All
the bats were in tamarisks from 12' to 30'
above the ground. (see map p. 8)

Aug. 22

Tejon Ranch Headquarters, 1500', Kern Co., Calif.

In a mixed orchard of peach, apricot,
nectarine, and olive, with oranges nearby,
Carl chased one ^{red} bat out of a nectarine
tree, and then a bunch of 3 from
another nectarine tree near it. It was
early morning but they flew readily.
Later in the morning, I found a group
of 3 clinging together in another nectarine
tree about 100 yds. away in the general
direction the ones he disturbed had flown.

M. Koford
1948

Zasiurus borealis

Aug. 22

Tejon Ranch Headquarters, 1500', Kern Co., Calif.
They were 12' up. Carl shot and got all 3 - 2 ♀♀, 1 ♂. We saw no more, but the dried fruits hanging in the trees certainly looked like bats. We looked in some tamarisks by a reservoir but found none.

Aug. 26

4 mi. S Mendota, Fresno Co., Calif.

at 4:00 pm on a hot day we looked for bats in the trees by the house and around the reservoir. The only ones we saw were in 3 bunches. One group of 4 was near the house, about 30' up. They were active even before we disturbed them. Carl shot them and 2 fell and 1 flew. One wouldn't come down although he shot it again and tried to dislodge it with rocks. The two we got were a ♂ & a ♀ (no lact. sign).
In the row of trees by the road (opp. house) there was one bunch (6?) on the east side at the south end 20' up, and one bunch (3?) in the next tree 25' up. Carl tried to reach the lower bunch with a net but it "exploded", all the bats flying at once, before he touched it. Shortly after we were here last, a worker found a dead banded bat in some tamarisks $\frac{3}{4}$ mi. S. (♂ banded April 27)

M. Koford
1949

12

Zasiurus borealis

April 17

4 mi. S Mendota, Fresno Co., Calif.

We saw two pairs (or possibly larger groups), one in a tree by the house and one in the row by the road opposite the house. Both were about 30' up and we didn't try to catch them. We looked for only 15 or 20 minutes and didn't go over ~~to~~ to the reservoir.

May 18

Firebaugh, Fresno Co., Calif.

at the spot at the west city limit where we banded May 2 last year the trees by the highway have been cut down and we found no bats in the other trees. We found none in the tree in town where we banded one the same day last year. 1 mi. S where we banded 5, Carl found 1 unbanded ♀ at the same corner of the estate where we banded 3 last year ^(see map). It was very torpid. It was probably pregnant. I banded it and he hung it back in the tree. 3 mi. N of Firebaugh where we banded last year April 27 and May 2, we found none.

4 mi. S Mendota, Fresno Co.

We found a group of 4 in the row of trees by the road (east side, near north end). One, which was a little separated from the other 3, flew immediately when the net touched the tree. Carl got 2 into the net but the third hung on. He tried to make

M. Koford
1949

13

Lasiurus borealis

May 18
1949

4 mi. S Mendota, Fresno Co., Calif.

it let go, but when it finally became sufficiently disturbed it escaped. Meanwhile, one of the two in the net had become active enough to fly and, before he could get hold of it, escaped. It flew a little and then landed on the ground, but almost immediately flew again. We got a good enough look to be sure that it did not have a band. The one left in the net was a banded one (#42-138146) banded May 2 last year in the trees by the reservoir. We released it after reading the number. It was very definitely pregnant.

May 23
1950

4 mi. S Mendota, Fresno Co.

We stopped here a little after noon and searched all the trees. The reservoir is gone as are the trees which stood around it. In two of the trees by the house were bats too high to catch with the net. Carl shot them, a ♂ and a pregnant ♀, both single. In the row by the road, toward the north end, was a group of two on the east side and a group of 3 on the west. The two were one pregnant ♀ which we kept and one banded pregnant ♀ (42-138146) which we released. This was the same bat

M. Koford
1950

14

Zapus borealis

May 23 4 mi. S Mendota, Fresno Co., Calif.

recaptured here last year. Of the group of 3, only one was captured at first try with the net. This was a pregnant ♀ which we kept. Another was located where it had hung at the south end of the same row. When shot, it proved to be a ♀, not so bulgy as the others. I prepared the ♂ & 2♀♀ shot as specimens. The less bulgy ♀ had 2 embryos and the other had 3. The two live♀♀ I will keep for a while.

M. Koford
1948

Zonotrichia cinerea - banding record

April 27 4 mi. S Mendota, Fresno Co.

42-138136 ♀

May 2

44 ♂

m.c. Ramage
1945

Zosimus cinereus

1.

April 20

7 mi. SW Mendota, Fresno Co., California

I found two, both males, in the Tamarisk trees around a reservoir. One was on the south side of a tree on the north edge of the reservoir about 20 ft. from the ground in a dense cluster of needles. The other was on the east edge of the reservoir on the west side of the trees, completely hidden in a very dense clump of needles, 6 ft. off the ground. It was kept alive until April 22. We also took 4 red bats from this reservoir. I found two more, one of which got away, in a 2-mile row of Tamarisks running east and west. I covered the east half of the row on the south side. The bat I caught was a female, out 20 ft up in a fairly open spot. The one which got away was about 10 ft. up in a very dense cluster so that the bat was not visible from below. It flew westward along the line of trees too rapidly for me to pursue it. I also took 3 red bats in this row.

April 22

3 mi. W San Juan Batista, San Benito Co., California

We saw a large bat flying along the top of the ridge at 4:50 PM. Walt got

M.C. Ramage
1945
1948

Zasius cinereus

April 22
1945

3 mi. W San Juan Batista, San Benito Co., California
out his gun and five minutes later a bat, presumably the same one, flew over the road in the bottom of the canyon, and Walt shot it. In the course of the evening there were at least 4 of these bats flying overhead. They flew in fairly straight lines and usually well above the tops of the eucalyptus trees which were between 75 and 100 ft. tall. One more was collected and another was hit but was lost in the trees.

Sept. 16
1945

7 mi. SW Mendota, Fresno Co., Calif.

On the south side of a windbreak, about 12 ft. up, Dr. Benson found one. When we tried to get it in the net it flew out over the field and apparently returned to the windbreak way down the line. We couldn't find it again. We got 1 Red Bat in this line.

Sept. 17
1945

Another search of the same line yielded nothing.

April 27, 1948

4 mi. S Mendota, Fresno Co., Calif.

We found one ♀ 10' up in a Tamarisk. (see map under *Z. borealis*). This was lower and in a

denser leaf cluster than we found any of the red bats. When banded and released, it hung in a Eucalyptus and began to chew at its band.
42-138136
p. 8

M. Koford
1948-9

3.

Zasiurus cinereus

May 2 3 mi. S & 6 mi. W Firebaugh, Fresno Co., Calif.

In a clump of Tamarisks Carl found one ♂ about 15' from the ground. It was very torpid and it took much shaking to get it into the net. We kept it as a specimen for (804) Storer.

4 mi. S Mendota, Fresno Co., Calif.

At the same group of trees where we banded bats April 27, Bob Storer found a ♂ 20' from the ground ^{in a Tamarisk} (see map ^{p. 8} Z. borealis). It was active and escaped to another ^{Tamarisk} ~~tree~~ where it hung at least 25' from the ground. We missed it several more times and each time it moved only a short distance in the same tree. When finally caught it was banded (42-138144) & released.

May 9 Point Lobos, Monterey Co., Calif.

Laidlaw Williams located a hoary bat, apparently unbanded. This may be his latest record for these bats here.

May 18 3 mi. S & 6 mi. W Firebaugh, Fresno Co.

We looked at the place where we banded the bat last year but found none.

Ramage
M. Koford
1946-~~1947~~

(1)

Corynorhinus rafinesquii - banding record

Sept. 28 Lucerne, Clear Lake, Lake Co., Calif.

46-16153 ♀ 5:30 pm S

16154 ♂ 5:30, 7:30 pm S

Oct. 19 4:00, 7:00 pm N; Nov. 16 4:30 pm S
Mar. 8 (1947) 8:00, 10:30 pm, 1:00, 3:30 am S
band moved to other wing

Oct. 19

16315 ♀ 4:00 pm S

Nov. 29 10:00 pm S

16323

♂ (missed at 4:00?) 5:00 pm N Nov. 16 4:30 pm N

16325

♀ "

16348

♀ 8:00 pm S

Oct. 20

16390 ♀ 12:30 am S

16416

♀ 4:30 am S

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne

16428

♂

March 8 (1947) basement

16429

♀

16430

♀

16431

♂

Nov. 16

Lucerne

Feb. 13, 1948 11:00 pm N

16598

♂

11:00 pm S

Nov. 17

16619

♀

1:00 am S

16623

♂

3:00 am N

1 mi. NE Sulphur Bank Mine

16626

♂

Nov. 29 attic; Dec. 1 under house; Mar. 8 attic

16627

♂

Nov. 29

16635

♀

basement

Mar. 8 basement

Mar. 19 '49 kept

16636

♀

"

16637

♀

"

Mar. 30 under house

Apr. 14, 1949 basement - Person kept

Lucerne

16669

♂

10:00 pm S

June 12, 1947 6:00 pm S; Mar. 6 '48
1:00 am S - died

Nov. 30

1 mi. NE Sulphur Bank Mine

16673

♀

under house

Mar. 8 basement

Ramage
M. Koford
1946-7

(2)

Corynorhinus rafinesquii

Nov. 30 5 1/2 mi. W + 1 mi. N Lower Lake, Lake Co., Calif.

46-16674 ♂

Zucerne, Lake Co.

16696 ♂ 6:00 pm S

Dec. 1 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

16697 ♂ under house

Dec. 28 under house - sore wrist

2 1/4 mi. SSE Wilbur Springs, Colusa Co.

16698 ♂ rt. antibrachial membrane injured

16699 ♀

16700 ♀

6 1/2 mi. SE Wilbur Springs, Colusa Co.

16709 ♂

2 1/4 mi. SSE Wilbur Springs

16710 ♀ kept alive died Jan. 17

1 mi. W Copay, Yolo Co.

16711 ♀ kept alive died March 19

March 8 1 mi. NE Sulphur Bank Mine

16725 ♀ basement

16726 ♀ " Apr. 14, 1949 Pearson kept (in basement)

16727 ♀ " " " "

16728 ♀ " " " "

March 9 16812 ♂ under house Mar. 29 basement Aug. 18 '49 kept
Sept. 30 + Oct. 1, 1948 basement + under house

March 29 16821 ♀ " "

16822 ♀ " "

(April 19 basement) probably this bat
number recorded
wrong

Zucerne

16823 ♂ 5:00 pm N

16824 ♀ " "

April 19 26010 ♂ 3:30 pm N, 8:00, 9:30 pm N
+ 12:00

M. Koford
1947

Corynorhinus rafinesquii

May 2 Albion, Mendocino Co., Calif.

46-16954

5

6 June 11 + ? young 26484 5pm

ad
♀♀

7 June 11 5pm + young 26501

8

9

60 June 11 5pm + young 26502

1

2

3

4

5

6 May 1949 Caspar

7

8

9 June 11 5pm lact

70

1 June 11 5pm lact.

2

3

4

5

6

7

8

9

80

M. Koford
1947

Corynorhinus rafinesquii

May 2 Albion, Mendocino Co., Calif.

46-16981

2

3

4

5

6

7 June 11 5pm lact

8 June 11 5pm lact 9pm

9

90

1 June 11 5pm + young 26496

2

3

4

5

6

7

8

9

17000

26176

7

8

9

80

1

2

ad
♀♀

N. Koford
1947

(5)

Corynorhinus rafinesquii

May 2 Albion, Mendocino Co., Calif.

46 - 26 183

4

5

6

7

8

9

90 June 11 9pm + young 265 71

1

2

3

4

5

6

7

8

9

200

1

2 June 11 5pm not preg.
or lact.

3

4 June 11 5pm + young 264 86

5

6

7

Sept 28, 1949 Elk

8

9

ad
♀
♂

M. Koford
1947

Corynorhinus rafinesquii

May 2 Albion, Mendocino Co., Calif.

46 - 26 210

ad
♀♀

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

20

- 1
- 2
- 3

4 Sept 28, 1949 Elk

- 5
- 6
- 7
- 8

9 June 11 5pm + young 26488

30

1

2 June 11 5pm + young 26491

- 3
- 4
- 5
- 6

M. Koford
1947

(7)

Corynorhinus rafinesquii

May 2 Albion, Mendocino Co., Calif.

46-26237

8

9

ad
♀♀

40

1

2

3

4

5

6

7 June 11 5pm lact

8

9

50

1

2 June 11 5pm lact

3

4

5 June 11 5pm + young 26492 9pm

6

7

8 June 12 10am + young 26554

9

60

1

2

3

M. Koford
1947

(8)

Corynorhinus rafinesquii

May 2 Albion, Mendocino Co., Calif.

46 26264 June 11 5pm lact

5 June 11 5pm lact

ad
♀♀

6

7

8

9

70 June 11 5pm lact

1

2

3

4

5

6

7

8

9

80

1

2

3

4

5

6

7

8 June 11 5pm lact

9 May 24 + young (26483)

90

M. Koford
1947

Corynorhinus rafinesquii

May 2 Albion, Mendocino Co, Calif.

46 26 29 1

ad
♀♀

2

3

4

5

6

7

8

9

June 11 5pm lact killed at Albion by Junior Warner,
May 21, 1953 (JW)

300

1

2

3

4

5

June 11 5pm lact

6

9

June 11 5pm + young 26485-

10

10

3

4

5

7

8

20

1

3

08
next page >

M. Koford
1947

(10)

Corynorhinus rafinesquii

May 2 Albion, Mendocino Co., Calif.

46-26324 ♀ ad

5 ♀ ad

May 3 Zucerne, Lake Co.

26308 ♂ 5:15pm N Feb. 13, 1948 5:30pm N, 2:30, 8:00am S

337 ♂ 10:30pm S

May 23 461 6:30pm N

May 24 Albion, Mendocino Co.

479 ♀ ad

80 ♀ ad

1 ♀ ad

2 ♀ ad

3 ♂ juv. young of 26289 9pm

June 11 5:00pm 4 ♂ juv. " " 16956 flies

5 ♀ " " " 26309 small 9pm

6 ♂ " " " 26204 small 9pm

7 ♂ " " " flies 9pm

8 ♀ " " " 26229 hanging on as mother flew - could fly a few feet 9pm

9 ♂ " " " flies 9pm

90 ♀ lact

1 ♂ young of 26232

2 ♀ " " 26255 very small 9pm

3 ♂ probably could fly

4 ♀ pregnant

5 ♀ lact

6 ♀ young of 16991 small 9pm

7 ♀ volant young 9pm

8 ♀ " " 9pm

M. Koford
1947

Corynorhinus rafinesquii

June 11 Albion, Mendocino Co.

5 pm 46-26499 ♀ + young (26500)

500 ♂ young of 26499 small 9 pm

1 ♂ " " 16957 "

2 ♂ " " 16960 " 9 pm

3 ♀ volant young

9 pm

5 ♂ young

6 ♂ "

7 ♂ "

8 ♂ "

9 ♀ "

10 ♀ "

2 ♀ "

3 ♀ "

4 ♀ "

6 ♀ "

7 ♂ "

8 ♂ "

9 ♀ "

20 ♂ "

1 ♂ "

2 ♀ "

3 ♂ "

4 ♂ "

5 ♂ "

6 ♀ "

8 ♀ "

9 ♀ "

M. Koford
1947

Corynorhinus rafinesquii

June 11 Albion, Mendocino Co.

9 pm 46-26530 ♀ young

1 ♂ "

2 ♀ "

3 ♀ "

4 ♂ "

5 ♀ "

6 ♂ "

7 ♂ "

8 ♀ "

9 ♂ "

40 ♀ "

1 ♂ "

2 ♀ "

3 ♂ "

4 ♂ "

5 ♀ "

6 ♂ "

7 ♂ "

8 ♂ "

9 ♀? "

50 ♀ "

1 ♂ "

2 ♀ "

3 ♀ "

4 ♂ "

5 ♂ "

6 ♂ "

June 12 10 am + mother 26258

M. Koford
1947

Corynorhinus rafinesquii

June 11 Albion, Mendocino Co.

98^m 46-26557 ♂ young

8 ♂ "

9 ♀ "

60 ♀ "

1 ? "

2 ♀ "

3 ♂ "

4 ♀ "

5 ♀ "

6 ♂ "

7 ♀ "

8 ♀ "

9 ♂ very young

70 ♂ young

1 ♀ young of 26190

2 ♂ young

3 ♀ "

4 ♂ "

5 ♂ "

6 ♀ "

7 ♀ lact.

June 12 Lucerne, Lake Co.

8 ♂ 6pm N July 15 6:30 am S; Sept. 24 6:30 pm S br.;
Nov. 14 3 pm S (Stebbins); Jan. 24 6 pm S

July 16 1.3 mi. SE Inverness, Marin Co.

630 ♀ lact

1 ♂ im

2 ♀ lact

M. Koford
1947

Corynorhinus rafinesquii

July 16 1.3 mi. SE Inverness Marin Co.

May 4 '50 ch-7123602 med. n. June 5 + young

46-26633 ♀ lact

4 ♂ im

5 ♀ lact

May 30 '48 preg Aug 10 lact
May 4 '50 ch-7123618 opreg June 5 non-br.

6 ♂ im

7 ♀ ?

8 ♀ lact

May 30 '48 preg Aug 10 lact May 4 '50 med. n.
June 5 + young

9 ♀ im ?

June 2 '49 preg Sept. 10 '49 ch-749-123161
May 4 '50 med. n. preg. opreg June 5 + young

40 ♀ im

1 ♀ im

June 2 '49 preg

2 ♂ im

3 ♀ lact

May 30 '48 + young ch-742-138180 Aug. 10 lact

4 ♀ lact

5 ♀ lact

6 ♀ lact

7 ♀ lact

May 30 '48 + young June 2 '49 preg May 4 '50 large n.
June 5 lact. ch-7124020

8 ♀ im

9 ♀ ad ?

May 30 '48 preg June 2 '49 + young

50 ♀ im ? (ad pelage) Aug 10 '48 kept mod lact

1 ♀ im

Aug. 10 '48 not lact. Sept. 10 '49 small n.
May 4 '50 ch-7123616 June 5 non-br. ? kept

2 ♀ lact

3 ♀ im

May 30 '48 preg. kept

4 ♀ lact

May 30 '48 + young Aug 10 lact June 2 '49 preg

5 ♀ im

6 ♀ lact

7 ♀ lact

8 ♀ lact

May 30 '48 + young Sept. 10 '49 med n.
May 4 '50 ch-7123667 June 5 lact.

9 ♀ lact

M. Koford
1947

Corynorhinus rafinesquii

July 16 1.3 mi. SE Inverness, Marin Co.

46-26660 ♀ im May 30 '48 preg. kept

1 ♂ im

2 ♂ im Aug. 3 '47

3 ♀ ? (im. in ad. pelage) Aug. 10 '48 not lact? June 2 '49 preg.;
(or non-br. ad.)

4 ♂ im

5 ♀ lact

6 ♀ im

7 ♀ lact May 30 '48 + young Aug 10 lact. June 2 '49 preg.
May 4 '50 small n. not preg. kept

8 ♀ lact Aug. 3 '47 Aug 10 '48 lact June 2 '49 lact
May 4 '50 ch → 123610 large n. June 5 lact

9 ♀ im Aug 10 '48 not lact kept

70 ♀ lact May 30 '48 + young Aug 10 lact?
March 31 '49 Pearson kept

1 ♀ im?

2 ♀ lact May 30 '48 + young Aug 10 lact Oct 17
Pearson kept

3 ♀ lact May 30 '48 + young March 31 '49 Pearson
June 5 '50 + young

4 ♀? May 30 '48 preg Aug 10 lact

5 ♀ im June 2 '49 + young Sept. 10 small n.
May 4 '50 med. n. ch → 123608 June 5 + young

6 ♀ lact May 30 '48 preg

7 ♀ im May 30 '48 preg Aug 10 lact. June 2 '49 preg
Sept. 10 '49 med. n. May 4 '50 large n. June 5 lact.

8 ♂ im

9 ♂ im

80 ♂ im

1 ♂ im

2 ♀ lact Aug 10 '48 lact? May 4 '50 large n.

3 ♀ lact May 30 '48 + young Aug 10 lact

4 ♀ lact May 30 '48 lact

5 ♂ im

6 ♀ lact May 30 '48 lact.

M. Koford
1947

Corynorhinus rafinesquii

July 16 1.3 mi. SE Inverness, Marin Co.

46-26687 ♀ im? May 30 '48 preg kept

8 ♂ im

9 ♀ lact

90 ♀ lact May 30 '48 + young

1 ♀ lact May 30 '48 Aug 10 '48 lact May 4 '50 med. n.
June 5 + young

2 ♂ im

3 ?

4 ♀ im

5 ♂ im

6 ♀ lact May 30 '48 lact Aug 10 lact? ch → 41-167912

7 ♀ lact May 30 '48 preg Aug 10 lact? May 4 '50 med. n.
June 5 + young

8 ♀ lact May 30 '48 preg May 4 '50 med. n. June 5 + young
→ 124002

9 ♀ lact May 30 '48 preg Aug 10 lact kept

700 ♀ lact May 30 '48 + young Aug 10 lact?

1 ♂ im

2 ♀ lact May 30 '48 preg Sept 10 '49 med. n.
May 4 '50 ch → 123611 med. n. June 5 + young

3 ♀ lact May 30 '48 preg Aug 10 lact Apr. 13 '49 Pearson
ch → 41-167936

4 ♀ im

5 ♀ lact Aug 10 '48 lact ch → 41-167913

6 ♂ im

7 ♀ lact Aug 10 '48 lact Sept 10 '49 med. n.
May 4 '50 med. n. June 5 + young

8 ♂ im

9 ♀ lact May 30 '48 lact Aug 10 lact

10 ♀ lact May 30 '48 preg June 2 '49 lact ch → 49-123033

1 ♀ lact May 30 '48 + young Aug 10 lact? June 2 '49 lact
Sept. 10 '49 tiny n. May 4 '50 large n.

2 ♀ lact

3 ♀ lact

M. Koford
1947

Corynorhinus rafinesquii

July 16 1.3 mi SE Inverness, Marin Co.

46-26 7/4 ♀ im May 30 '48 lact. or aborted kept

5 ♀ lact March 31 '49 Pearson kept

6 ♂ im

7 ♀ lact May 30 '48 preg Aug 10 lact? ch → ⁴¹⁻167937
June 2 '49 preg Sept. 10 '49

8 ♀ lact May 30 '48 preg May 4 '50 large n. June 5 lact.

9 ♀ lact May 30 '48 preg Aug 10 lact

20 ♀ lact May 30 '48 + young March 31 '49 Pearson kept
April 13 '49 Pearson kept

1 ♀ lact

2 ♀ lact Aug 10 '48 lact. May 4 '50 ch → 123612 med n.
June 5 lact.

3 ♀ lact May 30 '48 preg

4 ♀ im

5 ♂ im

6 ♀ lact

7 ♀ im

8 ♀ im Aug 10 '48 ch → 41-167925

9 ♀ lact

30 ♀ im? Feb. 19, 1950 Kept

1 ♂ im

2 ♀ im ~~Oct. '48 found 1 mi. from Tamales~~

3 ♀ lact May 30 '48 + young Aug 10 lact
Oct. '48 found 1 mi. from Tamales

4 ♀ im Aug 10 '48 lact Sept. 10 '49 kept small n.

5 ♀ lact May 30 '48 preg ch → 42-138179 June 2 '49 preg
May 4 '50 large n. June 5 lact

6 ♀ ad? May 30 '48 + young March 31 '49 Pearson

7 ♀ lact May 30 '48 preg Aug 10 lact June 2 '49 preg
May 4 '50 ch → 123609 med. n. June 5 + young

8 ♀ im

9 ♀ lact May 30 '48 lact Aug 10 lact?

40 ♀ lact

m. Koford
1947

Corynorhinus rafinesquii

July 16 1.3 mi. SE Inverness, Marin Co.

46-26741 ♀ lact May 30 '48 ~~to young~~ Aug 10 lact June 2 '49 preg
May 4 '50 med. n. June 5 lact

2 ♀ im

3 ♀ lact May 30 '48 lact May 4 '50 large n.

4 ♀ lact Sept. 10 '49 kept large n.

5 ♂ im

6 ♂ im

7 ♀ lact May 30 '48 preg Aug 10 lact

8 ♀ ad? June 2 '49 preg June 5 '50 + young

9 ♀ im

50 ♂ im

1 ♀ lact May 30 '48 + young Sept. 10 '49 large n.
May 4 '50 ch-7123604 med. n. June 5 + young

2 ♀ im

3 ♀ lact May 30 '48 lact

4 ♀ lact May 30 '48 + young ch-742-138159

5 ♀ im May 30 '48 preg kept

6 ♀ lact

7 ♀ im? May 30 '48 lact

8 ♀ lact Aug 10 '48 lact? March 31 '49 Pearson kept

9 ♀? May 30 '48 preg Aug 10 not lact? kept

60 ♂ im

1 ♀ lact May 30 '48 lact May 4 '50 ch-7123605 large n.
June 5 lact

2 ♀ lact Aug 10 '48 lact

3 ♂ im

4 ♂ im

5 ♀ im May 30 '48 preg kept

6 ♂ im

7 ♀ lact May 30 '48 lact May 4 '50 large n. preg. kept

M. Kopford
1947

Corynorhinus rafinesquii

July 16 1.3 mi. SE Inverness, Marin Co.

- 46-26768 ♀ lact May 30 '48 + young Aug 10 lact
Sept 10 '49 small n.
9 ♀ im May 30 '48 + young Sept. 10 '49 kept small n.
70 ♀ im
1 ♀ im
2 ♀ lact Aug 10 '48 ^{lact} March 31 '49 Pearson kept
3 ♀ lact May 30 '48 + young Aug 10 lact?
June 2 '49 lact May 4 '50 large n. June 5 + young
4 ♀ lact May 30 '48 preg kept June 14
5 ♀ lact May 30 '48 preg kept
6 ♀ lact May 30 '48 lact ch -> 42-138199
March 31 '49 Pearson June 11 '49 + young
7 ♀ lact May 30 '48 + young May 4 '50 med. n. June 5 + young
8 ♂ im

July 21 mouth Malpasso Cr. 5 mi. S Carmel, Monterey Co.

- 9 ♀ im May 9 '48 non-br. ch -> 42-138149
80 ♀ lact July 23 '47 Dec. 11 '48 kept
1 ♀ lact May 9 '48 killed preg
2 ♂ im
3 ♂ im July 23 '47 Oct. 1 '47 found in garage corner
Alameda & Colton St., Monterey by Dr. Anderson
4 ♂ im
5 ♀ lact
6 ♀ lact
7 ♀ im found mummified at Hatton Ranch, mouth of
Carmel Valley Aug 12 '48
8 ♀ im May 9 '48 non-br. ch -> 42-138154
9 ♂ im

corres. apt. 5
F.S. Ruth 1948

Sept. 13

- 860 ♀ May 9 '48 preg ch -> 42-138151 July 27 '49 Aug 26
1 ♀ May 9 '48 non-br. killed
2 ♀ May 9 '48 preg. July 27 '49 Aug 26 '49 ch -> 49-123153

M. Koford
1947-8

Corynorhinus rafinesquii

Sept. 24 Lucerne, Lake Co., Calif.

46-26863 ♂ br. 6:30 pm N

March 5 5:00 pm N

4 ♂ " " " "

Jan. 24

96 ♀ 5:45 pm S (kept)

Feb. 13 8:15 pm N; Mar. 5 5:15 pm S

7 ♂ 5:45 pm S & 8:15 N May 7, 1950 kept

9 ♂ 8:15 pm N

Feb. 13

909 ♂ 8:30, 11:30 pm S

12 ♀ 11:00 N, 11:30 S

Mar. 5

21 ♀ 5:00 pm N

May 9 ^{m.} mouth Malpaso Cr., 5 mi. S Carmel, Monterey Co.

42-138149 ♀ band changed
from 46-26779 non-br.

50 ♀ preg. July 27 '49; Aug. 26 '49; July 26 '50 lact. torpid

1 ♀ changed from 46-26860 preg. July 27 '49; Aug. 26 '49.

2 ♀ preg. July 27 '49. July 26 '50 lact.

3 ♀ preg.

4 ♀ changed from 46-26788 non-br.

5 ♀ juv. July 27 '49; Aug. 26 '49 only slightly dark

May 30 1.3 mi. SE Inverness, Marin Co.

6 ♀ young of 26672 Aug. 10 '48; June 2 '49 preg.; Sept. 10 '49 med. n.

7 ♀ preg. Sept. 10 '49 large n. May 4 '50 large n. preg. opreg. "x9"

8 ♀ preg.

9 ♀ changed from 26754 + young

60 ♀ young of 138159

1 ♂ young of 26658

2 ♂ young of 26736

3 ♀ young Aug 10 '48

4 ♀ lact. March 31 '49 Pearson June 2 '49 + young May 4 '50 large n. June 5 lact

5 ♀ young of 26768 Aug. 10 '48. June 5 '50 lact.

M. Koford
1948

Corynorhinus rafinesquii

May 30 1.3 mi. SE Inverness, Marin Co.

42-138166 ♀ young of 26733 Aug. 10 '48 June 2 '49 lact.
May 4 '50 large n.

7 ♂ young

Aug. 10 '48 lact?

8 ♀ + young

9 ♂ young of 138168

70 ♂ young

Aug 10 '48 lact. Jan. 27 '49 kept

1 ♀ + young

2 ♀ young of 138171 Aug. 10 '48.

3 ♀ young of 26711

4 ♀ lact.

5 ♀ preg. Aug. 10 '48 lact. June 2 '49 preg. May 4 '50 med. n.
June 5 lact.

6 ♂ young of 26647

7 ♂ young of 26683 Aug. 10

8 ♀ lact. Aug. 10 lact? June 2 '49 lact.

9 ♀ changed from

26735

June 2 '49 preg May 4 '50 large n.
preg. June 5 lact

80 ♀ changed from

26643

Aug 10 lact
+ young

1 ♂ young of 138180 died (return?)
Aug. 10.

2 ♀ lact May 4 '50 large n.

3 ♀ young of 26777 Aug. 10 '48

4 ♂ young

5 ♂ young

6 ♂ young

7 ♀ "

8 ♂ "

9 ♀ "

Aug 10 '48 May 4 '50 large n. preg. opdag 16.5 bump
June 5 not kept

90 ♀ "

Aug 10 '48 June 2 '49 preg. May 4 '50 large n.

June 5 + young

1 ♀ lact

June 2 '49 preg. May 4 '50 preg. opdag 12.5 m. bump
June 5 not preg.

2 ♀ young

Aug 10 '48 June 2 '49 preg. May 4 '50 large n.
June 5 lact.

M. Koford
1948

Corynorhinus rafinesquii

May 30 1.3 mi. SE Inverness, Marin Co.

42-138193 ♂ young of 26773

4 ♀ young of 26691 June 2 '49 non-b. kept

5 ♀ young

6 ♀ lact

7 ♂ young Aug 10 '48

8 ♀ preg Aug 10 '48 lact.

9 ♀ changed from 26776 lact March 31 '49 Pearson June 11 '49 + young May 4 '50 med. n. June 5 + young

200 ♀ lact Aug 10 lact May 4 '50 large n.

46-26933 ♂ young of 26720

4 ♂ young of 26667 Aug 10 '48

5 ♂ young

6 ♀ " Aug 10 '48 ch → 167914

7 ♂ "

8 ♂ "

9 ♂ "

40 ♂ young of 26670 Aug 10 '48

1 ♀ + young

2 ♀ young of 26941

3 ♂ young of 26654 Aug 10 '48

4 ♂ young

5 ♀ "

6 ♀ lact Aug 10 '48 lact Sept 10 '49 ch → 49-123163 large n. May 4 '50 med. n. preg. op. tag June 5 dead

7 ♀ young of 26673 Aug 10 '48 Aug 22 Benson

8 ♂ young of 26700 Aug 10 '48

9 ♀ lact Aug 10 '48 lact ch → 41-167938 Mar 31 '49 Pearson June 2 '49 preg May 4 '50 large n. preg. June 5 + young

50 ♀ + young Aug 10 '48 lact? Sept. 10 '49 med. n. May 4 '50 ch → 123615 large n.

1 ♀ young of 26950

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Corynorhinus rafinesquii

May 30 1.3 mi. SE Inverness, Marin Co.

46-26952 ♀ lact

3 ♂ young of 26751
Aug 10 '48

4 ♂ young

5 ♀ "

6 ♀ lact

7 ♀ lact Aug 10 '48 lact? ch → 41-167926 June 2 '49 preg
Sept. 10 '49 May 4 '50 med. n. June 5 lact.

8 ♀ lact Aug 10 '48 lact?

9 ♂ young

60 ♂ "

1 ♂ "

2 ♀ lact

May 4 '50 ch → 123601 large n.

3 ♀ lact

4 ♂ young

5 ♀ lact

Aug 10 '48 lact? kept

6 ♀ lact

7 ♀ lact Aug 10 '48 lact June 2 '49 preg ch → 49-103032
Sept. 10 med. n.

8 ♂ young of 26690

9 ♂ young Aug 10 '48

70 ♂ "

1 ♀ " Aug 10 '48

2 ♂ "

3 ♀ + young

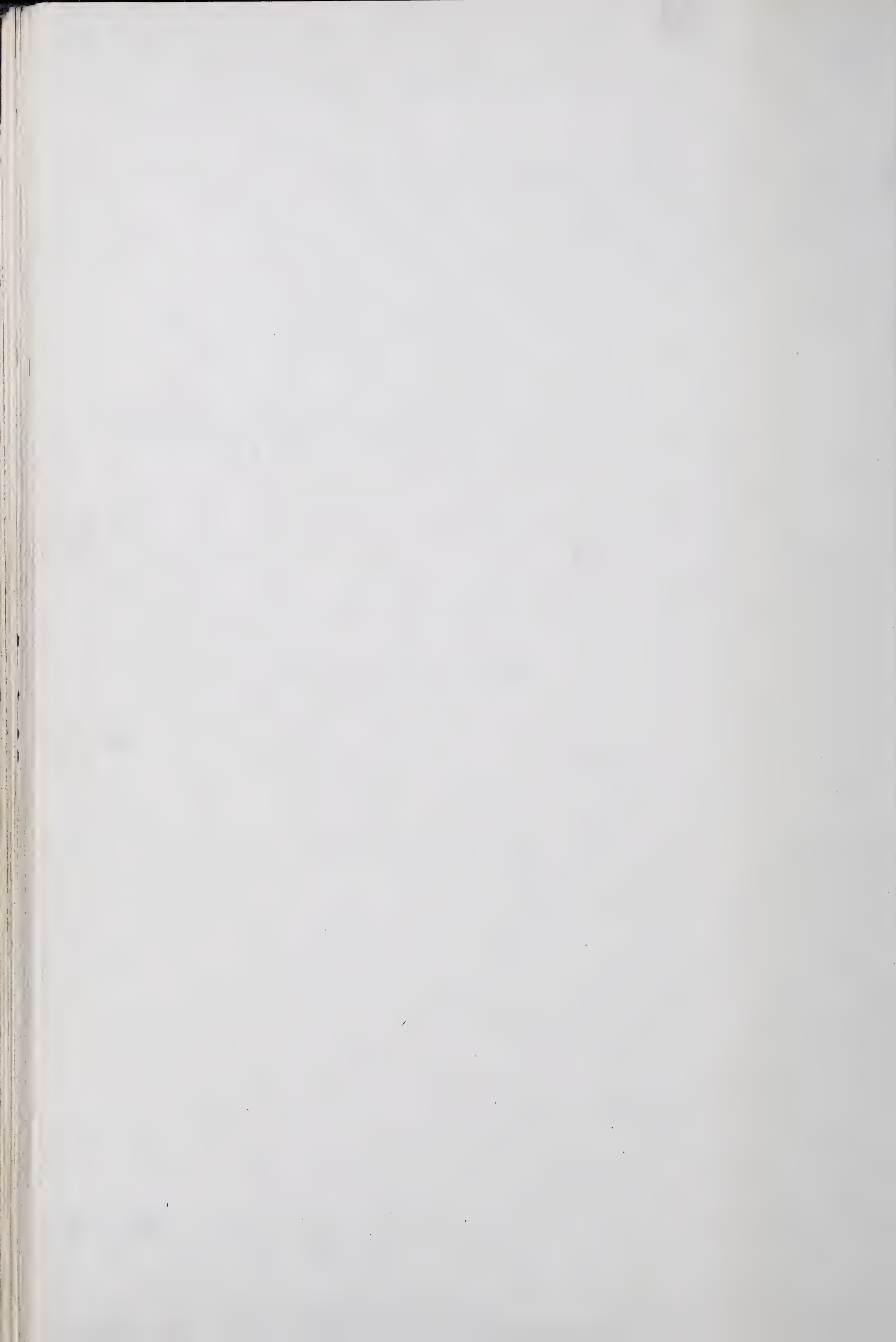
4 ♀ young of 26973

5 ♂ young of 26769

6 ♀ + young Aug 10 '48 lact June 2 '49 preg ch → 49-123622
June 5 '50 + young ch → 124007

7 ♀ young of 26976 Aug 10 '48

8 ♀ + young Aug 10 '48 lact? June 2 '49 preg
May 4 '50 ch → 123606 large n. June 5 lact.



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Corynorhinus rafinesquii

May 30 1.3 mi. SE Inverness, Marin Co.

46-26979 ♀ young of 26978

80 ♂ young of 26741

1 ♀ young

2 ♂ "

3 ♀ " Aug 10 '48

Aug. 10 41-167912 ♀ changed from 26696 lact?

3 ♀ changed from 26704 lact May 4 '50 med. n. preg. June 5 + young

4 ♀ changed from 26936 im.

5 ♀ im May 4 '50 med. n. June 5 non-br.

6 ♀ im Feb. 19, 1950 kept

7 ♂ im

8 ♂ im

9 ♀ im March 31 '49 Pearson June 2 '49 early preg June 11 '49 preg
Sept 10 '49 Pearson med-large n. May 4 '50 med. n. June 5 preg
Sept. 10 '49 med. n. May 4 '50 med. n. June 5 lact

20 ♀ im Sept 10 '49 small n. May 4 '50 large n.

1 ♀ im June 5 med. n. non-br.

2 ♀ im May 4 '50 med. n. June 5 + young

3 ♀ im Oct 20 kept

4 ♀ im

5 ♀ changed from 26728

6 ♀ changed from 26937 lact? June 2 '49 preg Sept 10 '49 small n.
May 4 '50 med. n. June 5 lact.

7 ♂ im

8 ♀ lact Sept 10 '49 large n. May 4 '50 large n. June 5 + young

9 ♀ lact? Oct. 17 Pearson kept

30 ♂ im

1 ♀ lact May 4 '50 large n. June 5 + young

2 ♂ im

3 ♂ im

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Corynorhinus rafinesquii

Aug. 10 1.3 mi. SE Inverness, Marin Co.

41-167934 ♀ lact April 13 '49 Pearson kept
5 ♀ im May 4 '50 large n. June 5 + young

6 ♀ changed from 26703 lact. April 13 '49 Pearson kept

7 ♀ changed from 26717 lact? June 2 '49 preg. Sept. 10 '49 small n.

8 ♀ changed from 26949 lact March 31 '49 Pearson June 2 '49 preg
May 4 '50 large n. preg. June 5 + young

9 ♂ im

40 ♀ not lact. June 2 '49 + young Feb 19, 1950 kept

1 ♂ im

Nov. 23 Lucerne, Lake Co.

47-278 ♂ 8:00 am N

Jan. 14 300 yd. SE Ice Cave, Old Station, Shasta Co.

41-167953 ♀ large n. single

4 ♀ med. n. group of 4

5 ♀ tiny n. "

6 ♀ large n. "

7 ♂ "

8 ♂ group of 31

9 ♂ "

60 ♂ "

1 ♂ "

2 ♂ "

3 ♂ "

4 ♀ large n. "

5 ♀ tiny n. "

6 ♂ "

7 ♂ "

8 ♀ med. n. "

Feb 2 group of 8 Feb 11 '50 med. n. group of 32

Feb 2 single April 2 group of 2
Feb 11 '50 large n. group of 32
Feb 2 group of 2

Feb 2 single April 2 single
Feb 11 '50 large n. single
Feb 2 group of 8

Feb 2 group of 2 Feb 11 '50 big epid. group of 32

Feb 2 single Feb 11 '50 big epid. group of 32

Feb 11 '50 big epid. group of 32

Feb 2 group of 17 Feb 11 '50 big epid. group of 32

Feb 2 group of 14

Feb 2 group of 30

Feb 2 group of 14 Feb 11 '50 med. n. group of 32

Feb 2 group of 17

Feb 2 group of 3 Feb 11 '50 big epid. single

Feb 2 group of 5

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Corynorhinus rafinesquii

Jan. 14 300 yd. SE Ice Cave, Old Station, Shasta Co.

41-167969 ♂	group of 3	Feb 2 group of 14 Feb 11 '50 big epid. group of 14 kept April 2 single Feb 11 '50 small n. group of 7
70 ♀ largen.	"	
1 ♂	"	Feb 2 group of 8 Feb 11 '50 big epid. group of 2
2 ♂	"	Feb 2 single
3 ♂	"	Feb 2 group of 30
4 ♂	"	Feb 2 group of 4 Feb 11 '50 big epid. group of 2
5 ♂	"	
6 ♂	"	
7 ♂	"	Feb 2 single Feb 11 '50 big epid. group of 32
8 ♂	"	
9 ♂	"	Feb 2 group of 9
80 ♂	"	
1 ♀ tiny n.	"	Feb 2 group of 9 April 2 group of 2 kept
2 ♂	"	
3 ♂	"	Feb 2 group of 4 Feb 11 '50 big epid. group of 14
4 ♂	"	Feb 2 single Feb 11 '50 big epid. group of 32
5 ♂	"	Feb 2 group of 8
6 ♂	"	Feb 2 group of 17
7 ♂	"	Feb 2 group of 30
8 ♂	"	Feb 2 group of 4
9 ♀ largen. single		Feb 2 group of 17 Feb 11 '50 largen. single
90 ♂	group of 5	Feb 2 group of 8 Feb 11 '50 big epid. single
1 ♂	"	
2 ♂	"	Feb 2 group of 9
3 ♂	"	Feb 2 group of 14
4 ♂	"	Feb 2 group of 8
42-162201 ♀ largen.	group of 3	

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Corynorhinus rafinesquii

Jan. 14	300 yd. SE Ice Cave, Old Station, Shasta Co.	
42-162202	♀ med. n.	group of 3 Feb 2 group of 17 April 2 group of 3 Feb 11 '50 med. n. single
3 ♂	"	April 2 group of 3 Feb 11 '50 big epid. group of 32
4 ♂	single	Feb 2 single
5 ♂	"	
6 ♂	"	Feb 2 group of 2
7 ♂	"	
8 ♂	"	Feb 2 group of 17
9 ♂	"	Feb 2 single
10 ♂	"	Feb 2 group of 17
1 ♀ tiny n.	group of 5	Feb 2 single
2 ♂	"	
3 ♂	"	Feb 11 '50 med. n. single
4 ♀ med. n.	"	Feb 2 group of 9
5 ♂	"	Feb 2 group of 5
6 ♂	single	Feb 2 group of 9
7 ♂	"	
8 ♂	group of 2	Feb 2 group of 14
9 ♀ largen.	"	
20 ♂	single	
1 ♂	group of 8	Feb 2 group of 30
2 ♀	"	Feb 2 group of 4 Feb 11 '50 med. n. single
3 ♂	"	Feb 2 group of 5 Feb 11 '50 big epid. single
4 ♂	"	
5 ♂	"	
6 ♂	"	Feb 2 single
7 ♀ med-largen.	"	Feb 3 Subway Cave south arm 10.2 gm. group of 8 April 2 Subway south 9.8 gm. single Feb 11 '50 300 yd SE Ice Cave med. n. single
8 ♀ tiny n.	"	Feb 2 group of 30

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Corynorhinus rafinesquii

Jan. 14 300 yd. SE Ice Cave, Old Station, Shasta Co.

42-162229 ♂	group of 4	Feb 11 '50 big epid. single
30 ♂	"	
1 ♀ large n.	"	Feb 2 single
2 ♀ tiny n.	"	Feb 2 group of 17
3 ♂	single	Feb 2 single
4 ♂	"	Feb 11 '50 big epid. group of 14
5 ♀ large n.	group of 3	Feb 2 group of 30
6 ♀	"	Feb 2 group of 8
7 ♀ tiny n.	"	Feb 2 group of 3 Feb 11 '50 tiny n. group of 7
8 ♂	single	April 2 single kept
9 ♂	"	Feb 2 group of 30
40 ♀ tiny n.	"	
1 ♂	group of 2	Feb 2 single
2 ♂	"	
3 ♂	"	Feb 2 single Feb 11 '50 big epid. group of 2
4 ♀ med. n.	"	Feb 2 group of 30
5 ♂	"	Feb 2 group of 5
6 ♀ large n.	"	Feb 11 '50 small n. group of 2 kept
7 ♂	group of 4	Feb 2 group of 30 Feb 11 '50 big epid. single
8 ♂	"	Feb 2 group of 30 April 2 single
9 ♂	"	Feb 2 group of 17
50 ♀ tiny n.	"	Feb 2 group of 5 Feb 11 '50 small n. group of 14
1 ♂	single	Feb 2 single
2 ♂	"	
3 ♂	"	Feb 11 '50 big epid. single
4 ♂	"	Feb 2 group of 4 Feb 11 '50 big epid. group of 32
5 ♂	"	

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Jan. 14 300 yd. SE Ice Cave, Old Station, Shasta Co.

		Feb 2 group of 17
42-	16 22 56 ♀ large n. single	Feb 2 group of 5 Feb 11 '50 large n. group of 14
	7 ♀ small n. "	
	8 ♀ med. n. group of 41	Feb 2 group of 5
	9 ♀ small n. "	* Feb 2 group of 17 Feb 11 '50 big epid. group of 32
60 ♂	"	Feb 2 group of 30 Feb 11 '50 big epid. single
1 ♂	"	
2 ♂	"	Feb 2 group of 30
3 ♂	"	Feb 2 group of 4 Feb 11 '50 big epid. group of 14
4 ♂	"	Feb 2 group of 5
5 ♀ tiny n.	"	Feb 2 group of 3
6 ♀ tiny n.	"	Feb 2 group of 30 April 2 single
7 ♀ large n.	"	Feb 11 '50 med. n. group of 14
8 ♀ tiny n.	"	Feb 2 single
9 ♂	"	Feb 2 group of 3
70 ♂	"	Feb 2 group of 17
1 ♂	"	Feb 2 group of 2
2 ♂	"	Feb 11 '50 big epid. group of 14
3 ♂	"	Feb 2 group of 30
4 ♀ large n.	"	Feb 2 group of 17 April 2 single
5 ♀ large n.	"	Feb 2 single April 2 single kept
6 ♀ large n.	"	Feb 2 group of 30 Feb 11 '50 med. n. group of 2
7 ♂	"	Feb 2 group of 2
8 ♂	"	
9 ♂	"	Feb 2 group of 14 Feb 11 '50 med. n. single
80 ♂	"	Feb 2 group of 9
1 ♂	"	Feb. 2 group of 2
2 ♂	"	Feb 2 single

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Corynorhinus rafinesquii

Jan. 14 300 yd. SE Ice Cave, Old Station, Shasta Co.

42-162283 ♂	group of 41	Feb 2 group of 30	April 2 single
4 ♀ largen.	"	Feb 2 single	Feb 11 '50 small n. group of 32
5 ♀ tiny n.	"	Feb 2 group of 30	
6 ♂	"	Feb 2 group of 30	
7 ♂	"	Feb 2 group of 30	
8 ♂	"	Feb 2 group of 30	
9 ♂	"	Feb 2 group of 30	
90 ♂	"	Feb 2 group of 9	Feb 11 '50 big epid. group kept of 7
1 ♂	"	Feb 2 group of 30	Feb 11 '50 big epid. group of 32
2 ♂	"	Feb 2 group of 30	Feb 11 '50 big epid. group of 32
3 ♂	"	Feb 2 group of 5	
4 ♂	"	Feb 2 single	Feb 11 '50 big epid. single
5 ♂	"	Feb 2 group of 3	Feb 11 '50 big epid. group of 32
6 ♂	"	Feb 2 group of 9	
7 ♀ tiny n.	"	Feb 11 '50 small n. single	
8 ♀ largen.	"	Feb 2 group of 9	
9 ♂	single group of 11	Feb 2 single	
300 ♂	"	Feb 2 single	
1 ♂	"	Feb 2 group of 3	
2 ♂	"	Feb 2 group of 30	
3 ♂	"	Feb 11 '50 big epid. group of 7 kept	
4 ♂	"	Feb 2 group of 30	Feb 11 '50 big epid. group of 2
5 ♂	"	Feb 2 single	April 2 single kept
6 ♂	"	Feb 2 group of 30	
7 ♂	"	Feb 2 group of 14	
8 ♂	"	Feb 2 group of 4	
9 ♀ small n.	"		

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Corynorhinus rafinesquii

Jan. 14 300 yd. SE Ice Cave, Old Station, Shasta Co.

42-162310 ♀ large n. group of 11 Feb 2 single

1 ♂ single

Feb 2 group of 5

2 ♂ "

Feb 11 '50 small epid. single kept

3 ♂ "

(Feb 2 group of 4 ♂?) April 2 group of 3 ♀ kept

4 ♀ large n. "

Feb 2 group of 2 Feb 11 '50 large n. group of 2

5 ♀ large n. "

(Feb 2 group of 2 ♂?) April 2 single ♀

7 ♀ small n. group of 3

Feb 11 '50 large n. group of 32

8 ♂ "

Feb 2 group of 17

9 ♀ small n. "

Feb 2 group of 5

21 ♂ "

Feb 2 single

2 ♂ "

3 ♀ large n. "

Feb 2 group of 14 Feb 11 '50 big epid. group of 2

4 ♂ group of 7

Feb 2 group of 5 April 2 single

5 ♂ "

Feb 2 group of 14 Feb 11 '50 big epid. group of 32

6 ♂ "

Feb 2 group of 17

7 ♂ "

Feb 11 '50 big epid. single

8 ♂ "

Feb 2 group of 30

9 ♂ "

30 ♂ "

1 ♂ group of 3

2 ♂ "

released 2 1/2 mi up creek
Brent Parrish Feb. 1950 Feb 11 '50 big epid. group of 32
Feb 11 '50 single kept

3 ♀ large n. "

group of 4 April 2 single

4 ♂ "

Feb 11 '50 big epid. single

5 ♂ "

Feb 2 group of 5

6 ♂ "

7 ♂ "

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Corynorhinus rafinesquii

Jan. 15 Subway Cave, Old Station, Shasta Co.

42-162338 ♂	new at 9:00 pm still there a m	north arm of cave	Feb 3 south 7.9 gm. single Feb 11 '50 big epid. single
9 ♂	new in a m	"	Feb 3 south 7.9 gm. single Feb 11 '50 ^{big} epid. single
40 ♂	"	"	Feb 3 south 8.4 gm. group of 3 April 2 south 7.9 gm. single
1 ♂	"	"	Feb 3 south 7.9 gm. group of 4 April 2 south 7.4 gm. single Feb 11 '50 single Feb 3 south 8.3 gm. group of 8 ^{big epid. of 15}
2 ♂	since yesterday	"	Feb 11 '50 ^{big group} epid. of 15 Feb 3 south 8.8 gm. single
3 ♂	"	"	April 2 south 8.0 gm. single Feb 11 '50 group Feb 3 south 8.3 gm. single ^{big epid. of 15}
4 ♂	"	"	April 2 south 8.0 gm. single Feb 3 south 8.3 gm. group of 8
5 ♂	"	"	April 2 south 7.6 gm. single Feb 3 south 8.5 gm. single
6 ♂	"	"	Feb 11 '50 ^{big} epid. single
7 ♂		south arm	Feb 3 south 8.2 gm. single
8 ♂		"	
9 ♂		"	Feb 3 south 8.6 gm. group of 8 Feb 11 '50 ^{big} epid. single
50 ♂		"	Feb 3 south 8.9 gm. group of 8
1 ♂		"	Feb 3 south 8.3 gm. single
2 ♂		"	Feb 3 south 8.6 gm. group of 2
3 ♂		"	Feb 3 north group of 2
4 ♂		"	Feb 3 south 8.3 gm. single April 2 south 7.7 gm. single Feb 11 '50 single Feb 3 north single April 2 south single ^{big epid.}
5 ♂		"	Feb 11 '50 ^{big epid.} group of 15 Feb 3 north single
6 ♂		"	Feb 11 '50 ^{big group} epid. of 15 Feb 3 south 9.6 gm. single
7 ♂		"	Feb 11 '50 ^{big} epid. single Feb 2 north arm, active in p m single
8 ♂		"	Feb 11 '50 ^{big} epid. single Feb 3 north, single April 2 south single
9 ♂		"	Feb 11 '50 ^{big epid.} single
60 ♂		"	April 2 south 7.4 gm. single Feb 11 '50 ^{big} epid. single
1 ♂		"	
2 ♂		"	Feb 3 south 7.8 gm. group of 2
3 ♂		"	Feb 3 south 8.6 gm. group of 2 Feb 11 '50 ^{big group} epid. of 15
4 ♂		"	Feb 3 north single

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Corynorhinus rafinesquii

Jan. 15 Subway Cave, Old Station, Shasta Co.

south arm Feb. 11 '50 big epid. group of 15
of cave

42-162365 ♂

6 ♂

7 ♂

8 ♂

9 ♂

70 ♂

1 ♀ large n.

2 ♀ large n.

3 ♀ large n.

4 ♂

5 ♂

6 ♂

7 ♂

8 ♂

9 ♂

80 ♂

1 ♂

2 ♂

3 ♂

4 ♂

5 ♂

6 ♂

7 ♂

8 ♂

9 ♂

90 ♂

1 ♀ tiny n.

Feb 3 south 8.6 gm. single

April 2 south 8.1 gm. group of 4 Feb 11 '50 group
big epid. of 15

Feb 3 south 8.4 gm. single

April 2 south 7.6 gm. group of 2 Feb 11 '50 single
big epid.

north arm Feb 2 & 3 single

Feb 11 '50 big epid. single

Feb 3 south 8.6 gm. group of 2

Feb 3 north single Feb 11 '50 big epid. group
of 15

Feb 3 south 9.8 gm. single

April 2 south 8.5 gm. single

April 2 south 9.0 gm. single Feb 11 '50 med n.
single

Feb 3 south 10.0 gm. group of 2

Feb 3 north single

Feb 3 south 8.6 gm. group of 3

Feb 11 '50 big group
epid. of 15

Feb 3 north single

Feb 11 '50 big epid. group of 15

Feb 3 north single

Feb 3 south 8.5 gm. single

April 2 south 7.7 gm. single Feb 11 '50 big group
epid. of 15

Feb 3 south 7.5 gm. single

Feb 3 south 8.1 gm. group of 8

Feb 3 south 8.7 gm. single

Feb 2 300 yd. SE Ice Cave Feb 3 Subway
(could be a misread 162334) single north arm

Feb 11 '50 big epid. group of 15

Feb 3 north single April 2 south 8.3 gm. single

Feb 11 '50 big epid. group of 15

Feb 3 south 8.1 gm. group of 2

April 2 south 7.4 gm. single

Feb 3 south 7.6 gm. group of 2

Feb 3 south 8.7 gm. group of 3

April 2 south 8.1 gm. group of 2

Feb 3 south 8.0 gm. group of 4

April 2 south 7.2 gm. group of 4 Feb 11 '50 big epid.
single

Feb. 11 '50 300 yd. SE Ice Cave tiny n. group of 14

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Corynorhinus rafinesquii

Jan. 15 Subway Cave, Old Station, Shasta Co.

42-162392 ♀ large n. of cave south arm Feb 3 south-dead
3 ♀ tiny n. " Feb 3 south 9.7 gm. group of 2
4 ♀ small n. " Feb 3 north group of 2 April 2 south group of 4
5 ♀ med. n. " Feb 3 south 8.7 gm. group of 4
6 ♀ med. n. " Feb 3 north single April 2 south single
7 ♀ large n. " Feb 11 '50 med. n. dry group of 15
Feb 3 north single
Feb 11 '50 med-large n. group single

Feb. 2 300 yd. SE Ice Cave, Old Station, Shasta Co.

8 group of 14
9 ♂ group of 8
400 ♂ group of 30
C-161744 ♂ "
5 ♂ "
6 ♂ single Feb 11 '50 big epid. group of 14
7 ♂ "
9 ♂ group of 5 Feb 11 '50 big epid. single
50 ♂ "
1 ♂ group of 17 Feb 11 '50 big epid. single
2 ♂ "

Feb. 3 Lava Beds National Monument, Siskiyou Co.
Mudoc Lava Beds

3 ♂ from Hercules Leg Cave released at Mushpot
4 ♂ "

April 28 Aetna Springs, Napa Co.

6 ♀ med. n. May 29 preg. June 5 + young kept
7 ♀ small-med. n. May 29 + young June 5 lact June 30 June 2 '50 + young
8 ♀ med. n. May 29 + young June 5 lact 1 night. roosting June 4 June 30 Apr. 27 '50 large n. kept
9 ♀ small-med. n. May 29 + young (young) June 2 '50 preg! June 8 + young
60 ♀ med. n.

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Corynorhinus rogersi

April 28 Aetna Springs, Napa Co. Calif.

			May 29 lact June 5 lact June 30 9.3 gm.
C- 161761	♀	large n.	May 29 + young June 5 + young June 30 10.3 gm.
2	♀	med. n.	Feb 27 '50 attic June 2 '50 preg! June 8 + young
3	♀	"	May 29 + young June 5 + young June 30
4	♀	"	Apr 27 '50 med. n. June 2 + young ^{just born} June 8 + young
5	♀	"	May 29 lact. June 2 '50 + young
6	♀	small n.	May 29 + young June 5 lact June 30
7	♀	med- large n.	Apr 27 '50 med. n. kept May 29 + young June 5 + young June 30
8	♀	small n.	Apr 27 '50 med. n. June 2 preg! May 29 preg. June 5 + young June 30 kept
9	♀	med. n.	May 29 + young June 5 + young June 30
70	♀	small n.	Apr 27 '50 large n. June 2 + young May 29 preg. June 5 + young June 30
1	♀	large n.	May 29 + young June 5 lact June 30 Apr 27 '50 large n.
2	♀	med. n.	June 2 '50 + young June 8 + young June 5 + young June 30 Apr 27 '50 large n.
3	♀	"	June 2 '50 + young May 29 + young June 5 + young (different ones!) (123024) (123026)
4	♀	"	Apr 27 '50 large n. June 2 + young May 29 lact June 5 lact
5	♀	small n.	May 29 + young June 5 lact Sept. 24 small n.
6	♀	med. n.	May 29 + young June 5 lact June 30
7	♀	"	June 2 '50 + young June 8 lact May 29 + young June 5 + young Apr. 27 '50 large n.
8	♀	small n.	June 2 '50 + young May 29 preg. June 5 + young (released unbanded)
9	♀	med. n.	June 30 med. n. June 2 '50 + young May 29 + young June 5 + young June 30 kept
80	♀	"	May 29 + young June 5 lact Sept. 24 med. n. kept at mine
1	♀	"	May 29 preg June 5 preg June 30 144 mm.
2	♀	"	Apr 27 '50 large n. June 2 + young May 29 lact. June 5 lact June 30 Aug. 2 kept
3	♀	"	May 29 lact June 30 June 2 '50 + young
4	♀	small n.	May 29 preg June 5 + young June 30
5	♀	med. n.	Apr 27 '50 med. n. June 2 preg! May 29 + young June 5 + young June 30
6	♀	"	Apr 27 '50 large n. June 2 + young May 29 + young June 5 lact Apr. 27 '50 large n.
7	♀	small n.	June 2 '50 non-br. May 29 non-br. kept

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Corynorhinus rafinesquii

May 29 Aetna Mine, Napa Co.

- June 5 lact June 30 June 2 '50 lact.
- C-161789 ♀ + young
young of June 5 4.8 gm. 28 mm. June 30 7.9 gm. 42 mm.
90 ♀ 161789 2.9 gm. Feb 16 '50 attic
- 1 ♂ 161792 3.7 gm. young of June 5 with 161792 5.9 gm. 34 mm. June 30 7.7 gm. 42 mm.
Nov. 3 kept
- 2 ♀ + young June 5 + young Apr. 27 '50 larger. June 2 '50 + young
- 3 ♀ + young June 5 + young June 30 June 2 '50 + young
- 4 ♀ 161793 2.5 gm. young of June 5 with 161793 4.5 gm. June 30 8.7 gm.
June 2 '50 preg!
- 5 ♀ + young
- 6 ♂ 161795 3.2 gm. young of June 5 4.7 gm. 27 mm. June 30 7.0 gm. 38 mm.
- 7 ♀ + young June 5 not caught with bunch, but came for young
June 30 June 2 '50 non-br. torpid & separate kept
- 8 ♀ 161797 4.8 gm. young of June 5 6.6 gm. 35 mm. picked up by 161797
June 30 killed
- 9 ♀ 161769 2.7 gm. young of June 5 with 161769 4.9 gm. 27 mm.
June 30 8.9 gm. 43 mm.
- 800 ♀ 161779 2.8 gm. young of June 5 with 161779 4.4 gm. 27 mm.
June 30 8.2 gm. 43 mm. kept
- June 5 lact Feb 16 '50 attic
- 49-123001 ♀ + young
- 2 ♂ 123001 3.1 gm. young of June 5 4.9 gm. 30 mm. June 30 8.0 gm. 42 mm.
- 3 ♀ + young June 5 + young
- 4 ♀ 123003 3.5 gm. young of June 5 with 123003 5.0 gm. 30 mm. June 30 8.1 gm. 43 mm.
- 5 ♂ young 4.1 gm. June 5 with 123023 5.5 gm. 33 mm. June 30 8.2 gm. 40 mm.
- 6 ♂ 161758 3.8 gm. young June 5 5.9 gm. 32 mm. June 30 8.6 gm. 41 mm.
- 7 ♂ 161771 4.0 gm. young of June 5 6.0 gm. 33 mm. June 30 8.2 gm. 42 mm.
- 8 ♂ 161780 4.4 gm. young of June 5 6.0 gm. 34 mm. June 30 8.3 gm. 42 mm.
- 9 ♀ + young June 5 + young June 2 '50 lact
- 10 ♀ 123009 4.1 gm. young of June 5 with 123009 5.7 gm. 34 mm. June 30 9.0 gm. 43 mm.
Apr. 27 '50 larger. June 2 + young
- 1 ♂ 161767 young of June 5 with 161767 28 mm. June 30 41 mm.
- 2 ♂ 161762 young of June 5 with 161762 32 mm. June 30 43 mm.
- 3 ♀ + young
- 4 ♀ 123013 young of
- 5 ♂ 161785 young of June 5 with 161785 29 mm. June 30 41 mm.



M. Koford
1949

Corynorhinus rafinesquii

May 29 Aetna Mine, Napa Co.

- 49-123016 ♀ preg. June 5 + young June 30 Sept 24 med. n. kept
 young of June 5 31 mm. June 30 41 mm.
 7 ♂ 161776
 8 ♀ young June 5 27 mm. June 30 7.8 gm. 41 mm. Feb. 16 '50 attie
 2.7 gm.
 June 5 lact. Mar 25 '50 attie kept
 9 ♀ + young
 young of June 5 29 mm. June 30 8.0 gm. 41 mm. Sept. 24 tiny n. kept
 20 ♀ 123019
 young of June 5 29 mm. June 30 42 mm. Sept. 24 tiny n.
 1 ♀ 161757 Apr 27 '50 med. n. June 2 '50 non-br
 young of June 5 26 mm.
 2 ♂ 161786
 3 ♀ lact. June 5 + young (123005) June 30 45 mm. Apr. 27 '50 large n.
 June 2 '50 + young
 4 ♀ young of June 5 32 mm. June 30
 161773
 5 ♀ + young
 6 ♂ young of June 5 with 161773 30 mm.
 123025
 7 ♂ young of June 5 with 161763 31 mm. June 30 43 mm.
 161763 Sept. 24 kept
 8 ♀ young of June 5 30 mm. June 30 42 mm. Sept. 24 tiny n.
 161766 Apr. 27 '50 med. n. kept
 9 ♀ young of June 5 with 161777 29 mm. June 30 43 mm.
 161777
 30 ♀ young of June 5 29 mm. June 30 42 mm.
 161775
 1 ♀ young June 5

June 2

Inverness, Marin Co.

- changed from Sept. 10 med. n.
 2 ♀ 46-26967 preg.
 changed from
 3 ♀ 46-26710 lact.
 4 ♀ preg.
 young of 2.7 gm. June 11 32 mm. Oct. 10 golden's bar kept
 5 ♀ 46-26675 19 mm.
 6 ♀ 2.6 gm. 19 mm.
 7 ♂ 3.2 gm. 19 mm.
 8 ♂ 3.1 gm. June 11 31 mm. Sept. 10
 19 mm.
 9 ♀ 3.9 gm. 25 mm.
 4.5 gm. June 11 36 mm.
 40 ♀ 26 mm.
 May 4 '50 large n. June 5 lact.
 1 ♀ + young

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Corynorhinus rafinesquii

June 2

~~May 29~~ Inverness, Marin Co.

49-123042 ♀ young of 2.7 gm. June 11 30 mm.
123041 18 mm.

3 ♀ + young Kept Mar 11 '50

4 ♂ young of 5.0 gm. June 11 35 mm.
123043 27 mm.

5 ♂ young of 2.5 gm. June 11 28 mm.
46-26649 17 mm.

6 ♀ + young May 4 '50 large n. June 5 lact

7 ♂ young of 2.5 gm.
123046 17 mm.

8 ♂ young of 3.0 gm. June 11 30 mm.
42-138164 19 mm.

9 ♀ 2.9 gm. June 11 29 mm. May 4 '50 med. n. June 5 + young
20 mm.

50 ♀ preg. Sept. 10 small n. May 4 '50 med. n. June 5 young
June 14

1 ♀ preg.

2 ♂ 2.7 gm. June 11 31 mm.
18 mm.

3 ♀ young of 3.9 gm. June 11 35 mm. May 4 '50 med. n.
41-167940 23 mm. June 5 lact

June 5

Aetna Min., Napa Co.

4 ♀ young of June 30 41 mm. Sept. 24 tiny n. kept
161784 16 mm.

5 ♀ young of June 30 43 mm.
161772 24 mm.

7 ♂ young of June 30 39 mm.
123016 18 mm.

8 ♂ young of 3.1 gm. June 30 8.0 gm. 41 mm. kept
161768 20 mm.

9 ♀ 31 mm. June 30 43 mm. Apr. 27 '50 large n.

60 ♂ young of June 30 6.4 gm. 37 mm. Apr. 27 '50 small
161770 17 mm. kept
Apr. 27 '50 med. n. kept

1 ♀ + young

2 ♀ young of May 25 '50 kept
123061 attic

3 ♀ lact June 30

June 11 1.3 mi. SE Inverness, Marin Co.

4 ♂ young of 24 mm.
138199

5 ♀ 31 mm. May 4 '50 large n. June 5 + young

6 ♂ 20 mm.

7 ♀ 32 mm. June 5 '50 small n. non-preg. non-lact



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Corynorhinus rafinesquii

June 11 1.3 mi. SE Cloverness, Marin Co.

49-123068 ♀ 28 mm.

May 4 '50 med. r. June 5 + young

9 ♀ 28 mm.

70 ♂ umb. cord
16 mm.

1 ♀ 28 mm.

Oct 10 Golden's barn kept

2 ♀ 31 mm.

May 4 '50 resolving kept

3 ♀ 24 mm.

May 4 '50 large r. June 5 + young

4 ♀ 35 mm.

5 ♀ 26 mm.

6 ♂ 31 mm.

7 ♀ 29 mm.

8 ♂ 28 mm.

9 ♂ 31 mm.

80 ♂ 18 mm.

1 ♂ 21 mm.

June 5 '50 + young

2 ♀ 33 mm.

3 ♀ 33 mm.

4 ♀ long umb. cord
17 mm.

May 4 '50 med. r. June 5 non-br.

5 ♀ 24 mm.

Sept. 10 kept tiny r.

6 ♀ 24 mm.

7 ♂ 19 mm.

8 ♂ 25 mm.

9 ♂ 21 mm.

90 ♀ 27 mm.

1 ♀ 34 mm.

2 ♂ 24 mm.

3 ♀ 17 mm.

4 ♀ 20 mm.



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Corynorhinus rafinesquii

June 11 1.3 mi. SE Inverness, Marin Co.

49-123095 ♂ 25 mm.

Sept. 10 tiny n. kept

6 ♀ 22 mm.

7 ♂ 24 mm.

Oct 10 Golden's barn kept

8 ♀ 20 mm.

9 ♀ 22 mm.

Sept. 10 tiny n. June 5 '50 med. n. non-lact.

100 ♀ 18 mm.

Oct. 10 red barn kept

1 ♂ 21 mm.

May 4 '50 large n. June 5 + young

2 ♀ 29 mm.

3 ♀ 28 mm.

4 ♂ 19 mm.

5 ♂ 30 mm.

6 ♂ 28 mm.

7 ♂ 36 mm.

8 ♂ 23 mm.

9 ♀ 26 mm.

10 ♀ 30 mm.

1 ♀ 24 mm.

2 ♂ 24 mm.

3 ♂ 19 mm.

4 ♀ 37 mm.

5 ♂ umb. cord
16 mm.

6 ♂ 24 mm.

7 ♀ 26 mm.

May 4 '50 med. n.

8 ♀ 26 mm.

9 ♀ 29 mm.

20 ♂ 28 mm.

1 ♂ 27 mm.



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Corynorhinus rafinesquii

June 11 1.3 mi. SE Inverness, Marin Co.
May '4 '50 June 5 + young June 14

49-123122 ♀ 25 mm.

3 ♂ 20 mm. "remain" found in cave in Larkspur
corres. Oct. 31 notes Nov. 18

4 ♂ 19 mm.

5 ♂ 21 mm.

6 ♀ 17 mm. Dead Sept 18

7 ♂ 25 mm.

June 30 Aetna Springs, Napa Co.

8 ♀ 6.5 gm. June 2 '50 non-br.
39 mm.

July

Mouth Malpas Co., 5 mi. S Carmel, Monterey Co.
July 26 '50 lact.

123 212 ♀ ad

3 ♀ ad? (small
n.)

4 ♂ young

5 ♂ "

6 ♀ "

7 ♀ "

8 ♀ ad

9 ♀ "

20 ♀ young

1 ♀ ad

2 ♀ "

3 ♀ "

4 ♀ "

5 ♀ "

6 young

Aug. 15 by James W. Creager at his home
in Carmel (by cat)
July 26 '50 lact

July 26 '50 lact

Aug. 26 still in pelage

Aug. 26 '49; July 26 '50 lact.

Watton Ranch (mouth Carmel Valley)
Sept. '49

July 26 '50 lact.

Aug. 26 '49; July 26 '50 lact

July 26 '50 lact.

Aug. 26 still in pelage July 26 '50 non-br.

Aug. 18 3 mi. NW St. Helena, Napa Co.

123129 ♀ ad

30 ♀ "



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Corynorhinus rafinesquii

Aug. 18 3 mi. NW St. Helena, Napa Co.

49-123131 ♀ ad

2 ♀ "

3 ♀ "

4 ♀ im Sept 24 small n.

5 ♀ ad

6 ♀ ad? med n.

7 ♀ im?

8 ♀ im

9 ♀ im

40 ♀ ad

1 ♂ im

2 ♀ ad

3 ♀ "

4 ♀ "

5 ♀ "

6 ♀ "

Aug. 26 nr. mouth Malpasos Co., 5 mi. S Carmel, Monterey Co.

52 ♀ ad

3 ♀ ad ch. from 46-26862

4 ♀ im? tiny nipples slightly dark

Sept. 10 L. Werness, Marin Co.

5 ♀ tiny n.

June 5 '50 young born in cage

6 ♀ "

7 ♀ small n.

May 4 '50 med. n.

9 ♀ "

May 4 '50 small-med. n. not preg. kept

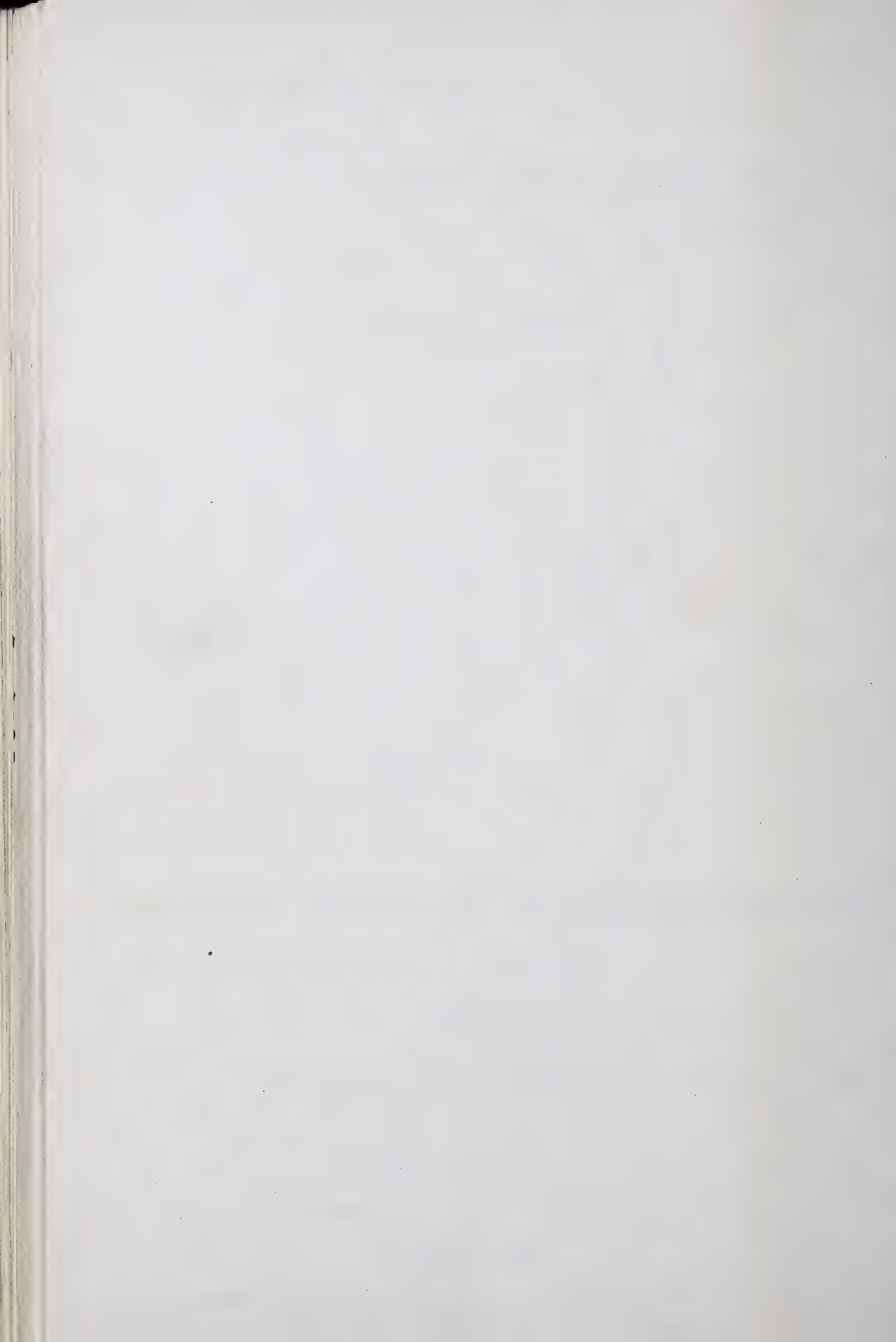
60 ♀ tiny n.

June 5 '50 preg.

1 ♀ med n

ch. from 46-26639

May 4 '50 med. n. preg opreg June 5 young



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Corynorhinus rafinesquii

Sept. 10 Inverness, Marin Co.

Oct. 10 kept golden's barn

49-123162 ♀ tiny n.

3 ♀ large n.

ch. from May 4 '50 med. n. preg. o. prag
46-26946 June 5 dead

Sept. 24 3 mi. NW St. Helena, Napa Co.

4 ♀ tiny n.

5 ♀ small n.

6 ♀ tiny n.

Aetna Springs, Napa Co.

7 ♀ tiny n.

Nov. 11

Manhattan Miss., Napa Co.

307 ♀ "Manzanita
hill" tunnel

Dec. 19 Catacombs med n Jan. 2 O P tunnel
8 pm med n 7.9 pm.

8 ♀

Apr. 27 '50 in colony tiny n. kept

9 ♀

Apr. 27 '50 in colony med. n.

10 ♀ "Catacombs"
tunnel

1 ♀

2 ♀

3 ♀

4 ♀

5 ♀

6 ♀

7 ♀

8 ♀

9 ♀

20 ♀

1 ♀

2 ♀

3 ♀

4 ♀

Apr. 27 '50 in colony large n.

Dec 19 Catacombs med n Jan. 3 Catacombs 9 am
large n. 8.8 pm.

Apr 27 '50 in colony med. n.

Apr 27 '50 in colony med. n.

Apr 27 '50 in colony med. n.

Feb. 17, 1950 Catacombs kept

Apr 27 '50 in colony med. n.



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Corynorhinus rafinesquii

Nov. 11 Manhattan Mine, Napa Co.

49-123325 ♀ "catacombs"

6 ♀ "

Jan. 3 Catacombs 9 am med n 7.8 gr.

7 ♀ "

8 ♀ "

9 ♀ "

flew in
while we
were there?

30 ♀ "

Dec 19 Catacombs large n Jan. 3 Catacombs
9 am large n 8.3 gr.

1 ♀ "

Dec 19 Catacombs med n Jan. 3 Catacombs
9 am large n gooey 9.0 gr.

June 2 Mr. 20 house hole kept

"OP tunnel" 6 am Feb 27 Catacombs large n. paint left wing
gooey

Dec. 19

2 ♀ med n.

3 ♀ OP tunnel
6 am large n.

Jan. 2 OP tunnel 8 pm large n 9.7 gr

4 ♀ "

Jan. 3 Catacombs 9 am med n gooey
8.9 gr.

5 ♂ "

Apr 27 '50 OP tunnel kept
large epid.

6 ♀ "

Apr 27 '50 in colony med. n.

7 ♀ "

small n

8 ♀ "

med n

9 ♀ "

small n

40 ♀ "

tiny n

Apr. 27 '50 in colony tiny + n.
kept

1 ♀ "

tiny n

Apr 27 '50 in colony med. n.

2 ♀ "

tiny n

3 ♂ "

large epid.

4 ♀ "

tiny n.

5 ♂ "

large epid.

Apr. 27 '50 in colony med. n.

6 ♀ "

small n.

7 ♀ "

small n

Feb 27 OP tunnel kept

8 ♂ "

large epid

9 ♀ "

tiny n

Jan 2 OP tunnel 8 pm tiny n 9.7 gr
Apr 27 in colony small n. Knoxville
May 20 mon by David Watson

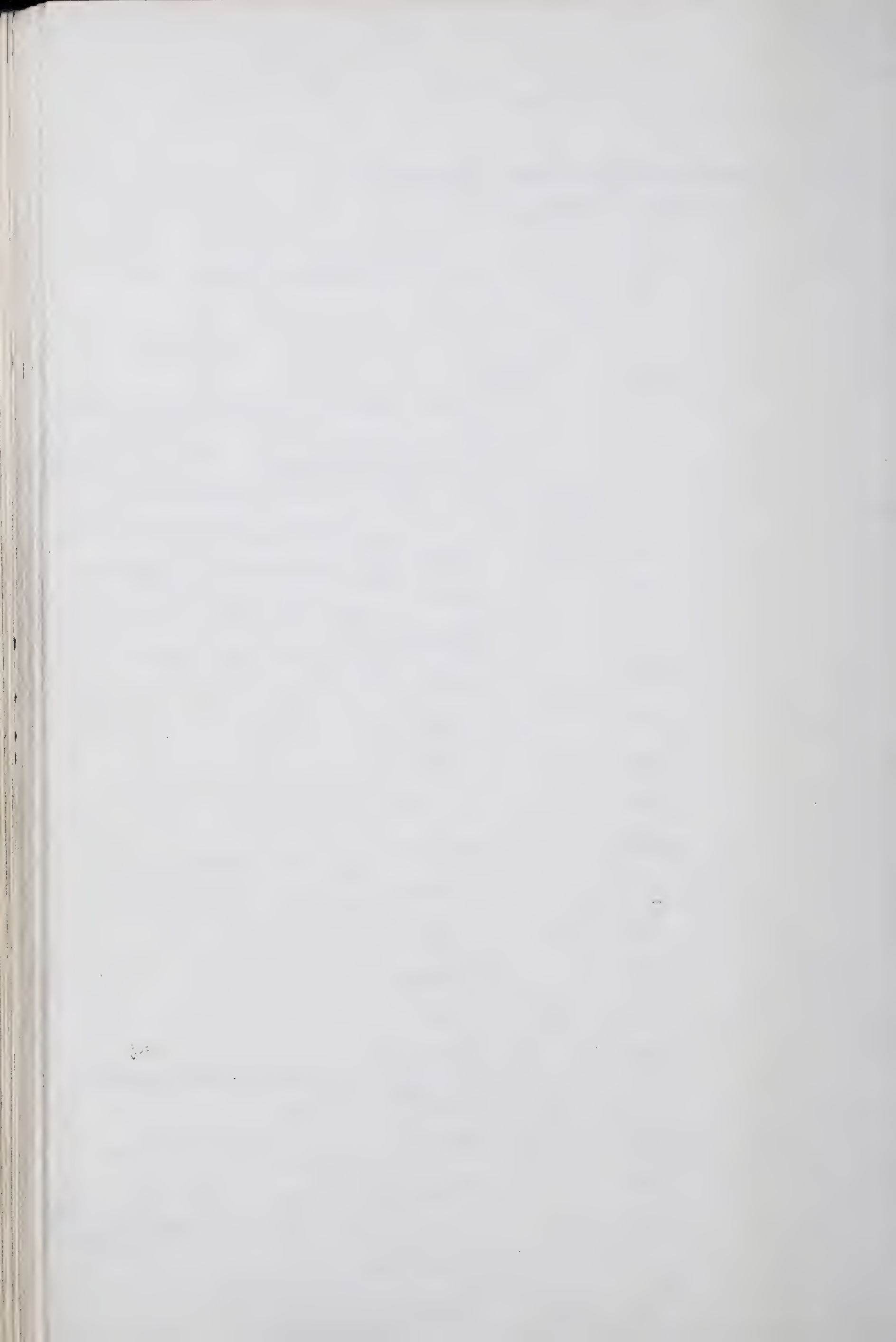
50 ♂ "

large epid

Jan. 3 Catacombs 9 am small n. 9.3 gr.

1 ♀ "

small n



M. Koford
1949

Corynorhinus rafinesquii

Dec. 19 Manhattan Mine, Mapa Co.

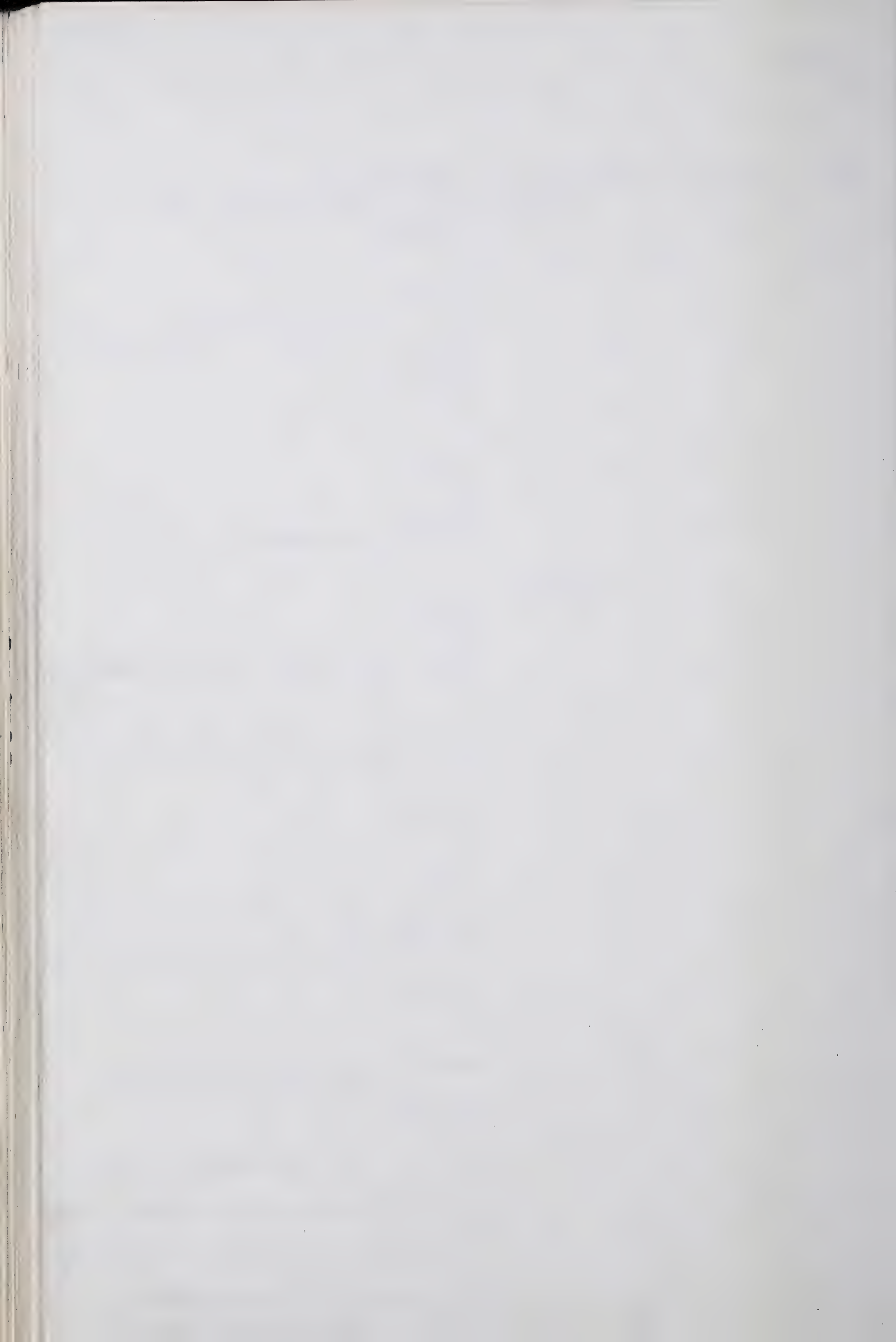
49 - 123352 ♀	"OP tunnel" 6 am	tiny n.	Apr 27 '50 in colony small n.
3 ♀	"	tiny n. pearly drop	
4 ♀	"	med n	
5 ♀	"	large n	Apr 27 '50 in colony med. n.
6 ♂	"	small epi	
7 ♀	"	tiny n	
8 ♀	"	med n	
9 ♂	"	large epi	
60 ♀	"	med n	
1 ♂	"	small epi	
2 ♂	"	large epi	
3 ♀	"	tiny n	
4 ♀	"	med n	Jan. 2 OP tunnel 8 pm large n 9.8 gm Feb 27 large n 'OP tunnel Apr. 27 in colony govery large n.
5 ♀	"	tiny n	
6 ♂	"	large epi	
7 ♀	"	med n pearly drop	Apr. 27 '50 in colony med. n.
8 ♂	"	large epi	
9 ♀	"	tiny n	
70 ♂	"	large epi	
1 ♂	"	" "	
2 ♀	"	med n	Apr. 27 '50 in colony med. n.
3 ♂	"	large epi	
4 ♂	"	med epi	
5 ♂	"	small epi	
6 ♂	"	small "	
7 ♂	"	large "	
8 ♂	"	very large "	

M. Koford
1949

Corynorhinus rafinesquii

Dec. 19 Manhattan Mine, Napa Co.

49-123379 ♂	OP tunnel 6 am	large epi.	Jan. 3 Manzanita Hill large epi
80 ♂	"	" "	
1 ♀	"	small n.	
2 ♀	"	med n	Feb 27 Catacombs large n. paint on gooey ht. (left?) Kept
3 ♂	"	large epi	
4 ♂	"	" "	
5 ♀	"	tiny - small n.	
6 ♂	"	large epi	
7 ♂	"	" "	Jan 2 OP tunnel 8 pm med-e pi. 8.6 gm.
8 ♀	Catacombs 9 am	med n	
9 ♀	"	tiny n	
90 ♀	"	med n	Feb 27 Manzanita Hill large n. gooey
1 ♀	"	tiny n	
2 ♂	"	large epi	Jan 3 Catacombs 9 am large epi 9.1 gm.
3 ♀	"	small n	
4 ♀	"	tiny n	
5 ♂	"	med epi	
6 ♀	"	small n pearly fluid	Jan 2 OP tunnel 8 pm small n. gooey 7.5 gm.
7 ♂	"	large epi	Jan 3 Catacombs 9 am large epi 8.0 gm.
8 ♂	"	" "	
9 ♀	"	small n	
400 ♂	"	large epi	Feb 27 Catacombs large epi.
1 ♀	"	small n	
2 ♀	"	med n pearly fluid	Apr. 27 '50 in colony small n.
3 ♂	"	large epi	Jan 2 OP tunnel 8 pm large epi. 7.7 gm.
4 ♀	"	med n	Jan 2 OP tunnel 8 pm large n. gooey 8.5 gm.
5 ♀	"	tiny n	Apr. 27 '50 in colony med. n.



M. Koford
1949-50

Corynorhinus rafinesquii

Dec. 19 Manhattan Mine, Napa Co.

49-123406 ♀	Catacombs 9 a.m.	small n	Apr. 27 '50 in colony med. n.
7 ♀	"	tiny n	Apr. 27 '50 in colony med. n.
8 ♀		small n	
9 ♀		med n pearly fluid	
10 ♀		tiny n pearly fluid	
1 ♀		tiny n	
2 ♂		med epi	
3 ♂		large "	
4 ♂		" "	
5 ♀		tiny n	Apr. 27 '50 in colony tiny n. kept
6 ♀		med n	
7 ♂		large epi	

Jan. 2

8 ♀	OP tunnel 8:30 p.m.	med n gooey 10.9 gm.	
9 ♀	"	tiny n. Jan 3 9 a.m. Catacombs small n 10.4 gm.	
20 ♀	"	10.2 gm. Apr. 27 in colony med. n.	
1 ♀	"	large n Apr. 27 '50 in colony med. n.	
2 ♀	"	10.2 gm. Feb 27 Catacombs large n.	
3 ♀	"	med n 8.7 gm.	
4 ♀	"	med n Jan 3 Catacombs 9 a.m. med n gooey 10.2 gm.	
5 ♀	"	9.7 gm.	
6 ♀	"	med n gooey 9.0 gm.	
7 ♀	"	large n gooey 8.5 gm.	
8 ♀	"	small n gooey Jan. 3 Catacombs 9 a.m. med n 9.7 gm.	
9 ♀	"	9.5 gm. Apr. 27 in colony small n.	
30 ♀	"	tiny n gooey Apr. 27 in colony med. n.	
1 ♀	"	10.4 gm.	
2 ♀	"	large n gooey Jan. 3 Manzanita Hill 8.6 gm.	
3 ♀	"	small n gooey 9.9 gm.	
4 ♀	"	med n gooey Jan. 3 Catacombs 9 a.m. large n 11.4 gm.	
5 ♀	"	11.3 gm. Apr. 27 in colony med. n.	
6 ♀	"	med n flying 9.5 gm.	
7 ♀	"	tiny n Jan. 3 Catacombs 9 a.m. tiny n 9.5 gm.	
8 ♀	"	9.5 gm. Apr. 27 in colony med. n.	
9 ♀	"	large n. Apr. 27 in colony med. n.	

Jan. 3



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1950

Corynorhinus rafinesquii

Jan. 3 Manhattan Mine, Napa Co.

49-123433 ♀ Catacombs largen
9:30 am 11.0 gm.
4 ♀ " largen.
9.5 gm.
5 ♀ " largen. gooey Apr. 27 '50 in colony largen.
8.7 gm.
6 ♀ " tiny n. gooey
9.1 gm.
7 ♀ " small n.
8.9 gm.
8 ♂ " large epi.
8.1 gm.
9 ♂ " large epi Apr. 27 catacombs kept
8.1 gm.
40 ♂ " tiny epi
10.0 gm.
1 ♂ " large epi
8.5 gm.
2 ♂ hole by road 10.4 °C.
12:30 pm large epi.

Jan. 20 nr. mouth Malpasso Cr., 5 mi. S Carmel, Monterey Co.

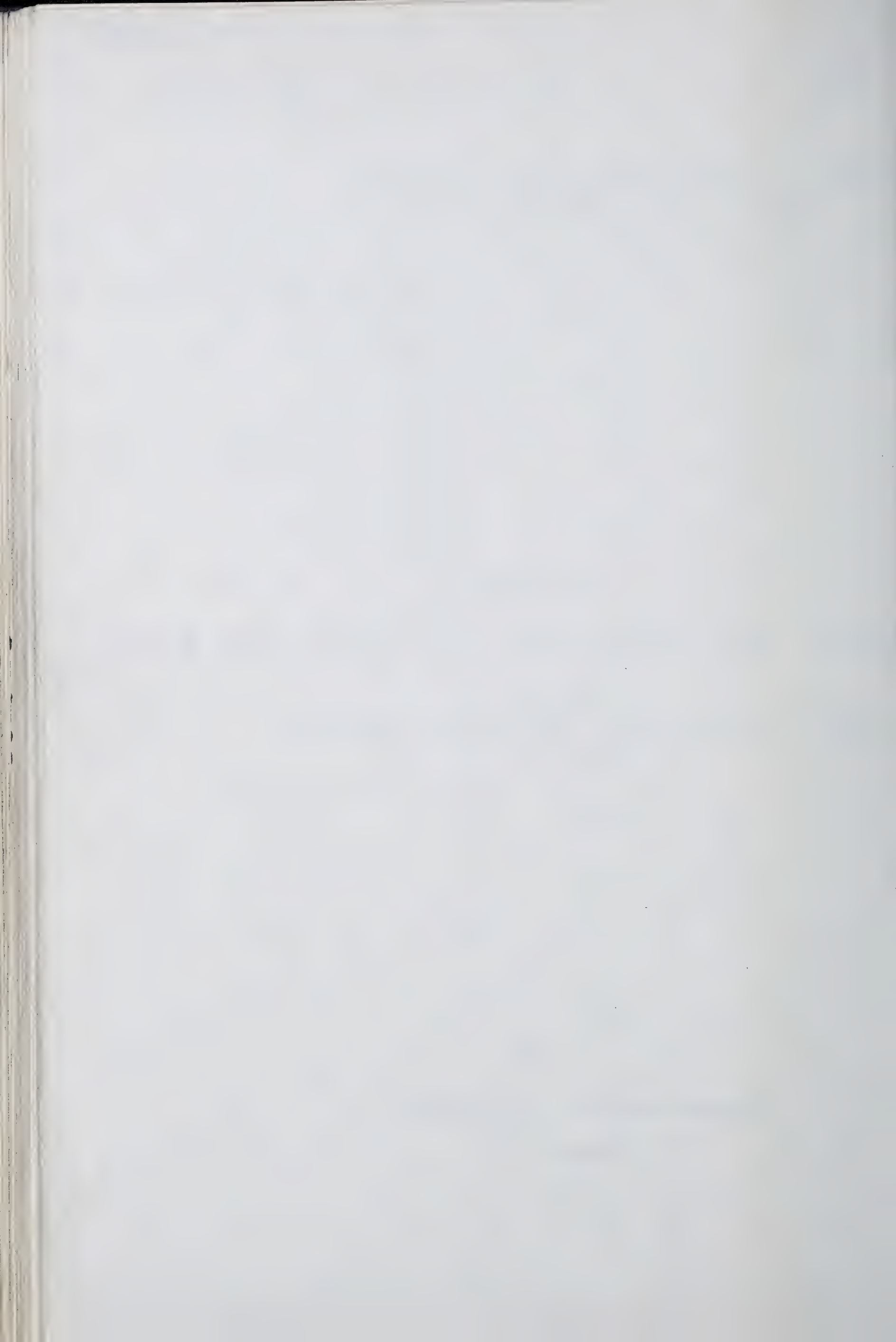
3 ♂ large epi.

Feb. 11 Subway Cave, Old Station, Shasta Co.

5 ♂ big epid. single
6 ♂ small " "
7 ♂ " " "
8 ♂ big " "
9 ♂ small " group of 15
50 ♀ larg n. gooey single
1 ♀ tiny n. " "
2 ♀ small n. dry goe " "

300 yd. SE Ice Cave, Old Station

3 ♂ big epid. single
4 ♂ small " "
5 ♂ big " "
6 ♂ " " "
7 ♂ " " "



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1950

Corynorhinus rafinesquii

Feb. 11 300 yd. SE Ice Cave, Old Station, Shasta Co.

49- 123458 ♂ big epid. single

9 ♂ " " "

60 ♂ small " "

1 ♂ big "

2 ♀ tiny n. "

3 ♀ " "

4 ♀ " "

5 ♀ large n. "

6 ♀ tiny n. "

7 ♀ " "

8 ♀ " "

9 ♀ large n. "

70 ♀ med n. "

1 ♀ tiny n. "

2 ♀ tiny n. "

3 ♀ tiny n. "

4 ♀ large n. "

5 ♀ tiny n. goony "

6 ♂ big epid. "

7 ♂ tiny epid. "

8 ♂ tiny " group of 32

9 ♂ big " "

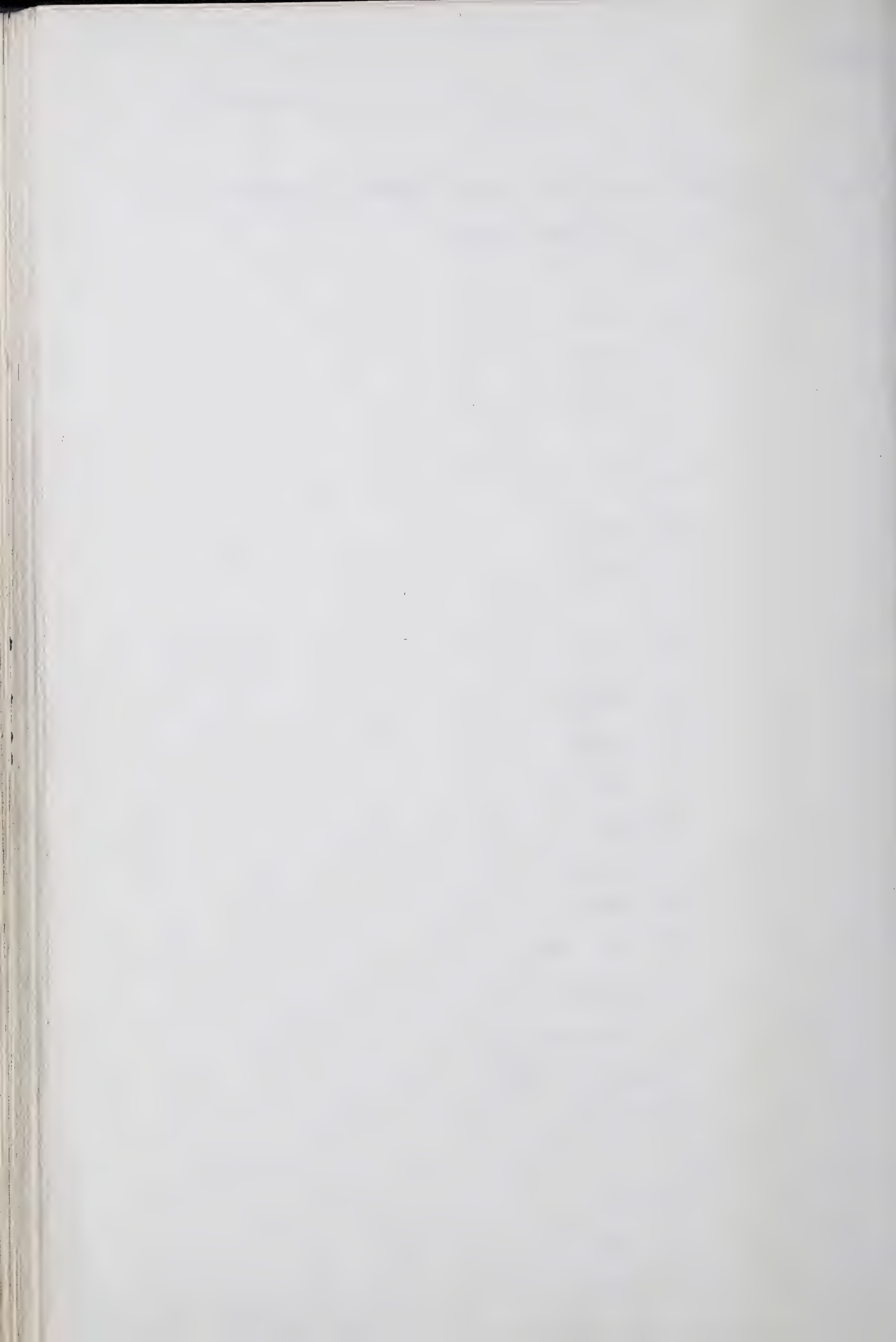
80 ♂ " " "

1 ♂ tiny " "

2 ♂ med. " "

3 ♂ small " "

4 ♂ big " "



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1950

Corynorhinus rafinesquii

Feb. 11 300 yd. SE of Lee Cave, Old Station, Shasta Co.

49-123455 ♂ tiny epid. ^{group} of 32

6 ♂ " " "

7 ♀ tiny n. "

8 ♀ med. n. gooey "

9 ♀ large n. "

90 ♀ " "

1 ♀ med. n. ^{group} of 2

2 ♂ big epid. "

3 ♂ tiny " "

4 ♂ big " "

5 ♀ med. n. gooey "

6 ♀ tiny n. ^{group} of 7

7 ♀ large n. "

8 ♀ tiny n. "

9 ♀ small n. ^{group} of 2

500 ♀ med. n. "

1 ♂ tiny epid. ^{group} of 14

2 ♂ big " "

Feb. 16 Aetna Springs, Napa Co.

49-123503 ♂ large epi.

Aetna Mine

4 ♂ large epi.

Reed Mine near Knoxville, Napa Co.

057
next
page

6 ♂

7 ♂



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1950

(51)

Corynorhinus rafinesquii

Feb. 16 Reed mine near Knoxville, Napa Co.

49-123508 ♂ large epi. taken in Manhattan Mine, Knoxville AKI
9 ♂ small epi.

Feb. 19 1.3 mi. SE Inverness, Marin Co.

5 ♀ kept since last
Sept. 10, released

Feb. 26 Knoxville, Napa Co.

10 ♀ large n. coll. 10 pm
released in am
at Manhattan mine

1 ♀ tiny n. dark kept

2 ♂ large epi.

3 ♀ small n. paint on
left wing

June 1 Knoxville 11:30 pm
large epi. kept

Feb. 27 Manhattan Mine, Napa Co.

4 ♀ med. n.
gooey OP tunnel

5 ♀ med. n.
gooey

Apr 27 in colony med n

6 ♀ med. n.
gooey paint both wings

Apr. 27 '50 in colony large n.

7 ♀ large n.
gooey paint both wings

8 ♀ tiny n.
not gooey paint 2 on rt. wing

9 ♀ large n.

Apr. 27 in colony med. n.

20 ♀ med. n.

1 ♀ large n.
gooey

Apr. 27 in colony med. n.

2 ♀ large n.
gooey

3 ♀ small n. Manzanita Hill
not gooey released Catacombs

4 ♂ large epi.

5 ♀ med. n.
gooey

Apr 27 in colony med. n.

Catacombs

6 ♀ large n.

7 ♀ large n.

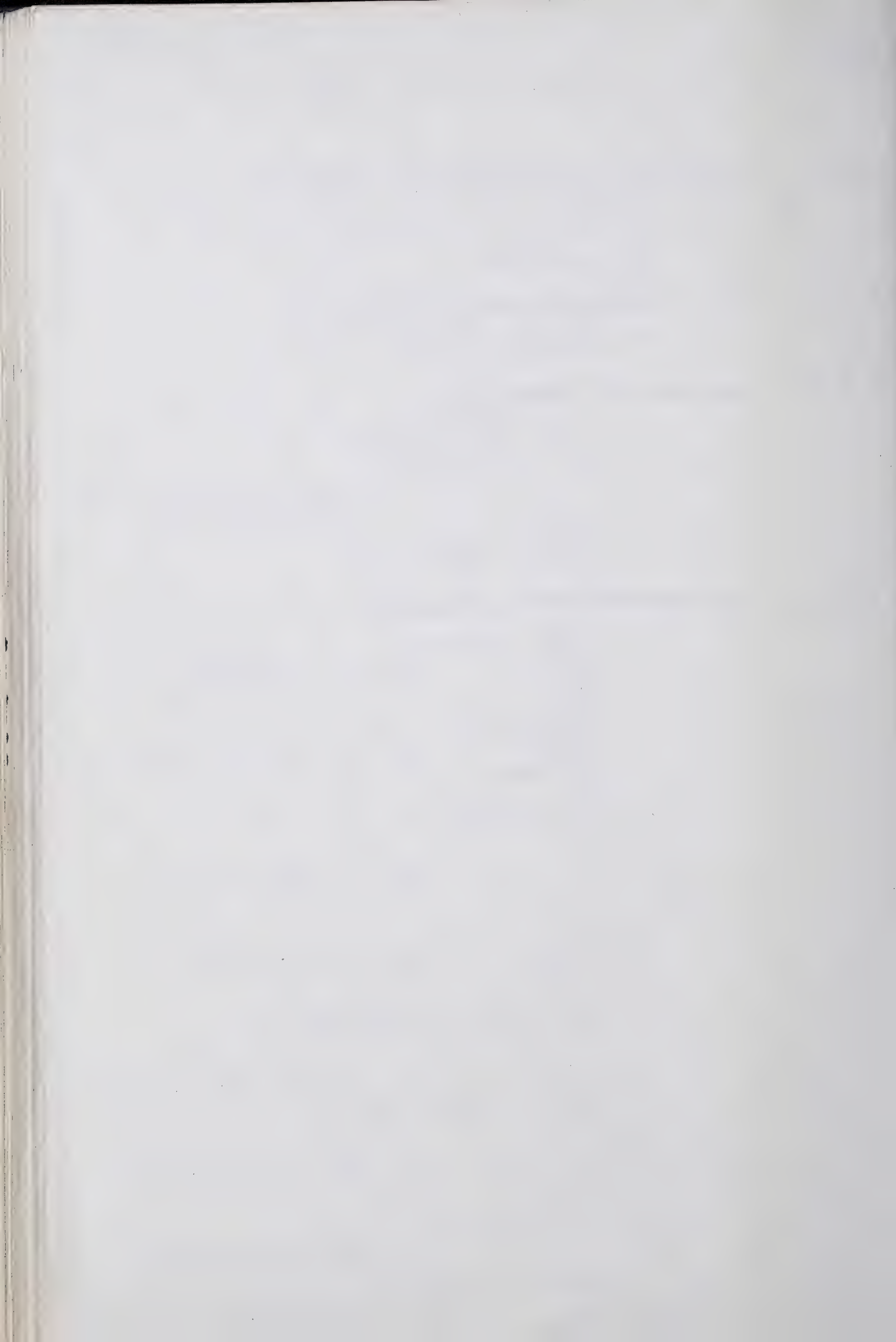
Apr. 27 in colony small n.

8 ♀ med n. kept

9 ♀ large n.

Apr 27 in colony large n.

30 ♀ large n.



M. Koford
1950

(52)

Corynorhinus rafinesquii

Feb. 27 Manhattan Mine, Napa Co.

49-123531 ♀ ^{large n.} goosy catacombs

2 ♀ large n. "

3 ♀ large n. "

April 27 ~~Atna~~ Manhattan Mine, Napa Co.

41 ♀ med n ⁱⁿ colony

2 ♀ large n. "

3 ♀ med n. "

4 ♀ med n. "

5 ♀ med n. "

6 ♀ med. n. "

7 ♀ small n. "

8 ♀ med n. "

9 ♀ med n. "

50 ♀ " "

1 ♀ small n. "

3 ♀ med. n. "

4 ♀ small n. "

5 ♀ tiny + n. "

6 ♀ med. n. "

7 ♀ " "

8 ♀ " "

9 ♀ " "

60 ♀ " "

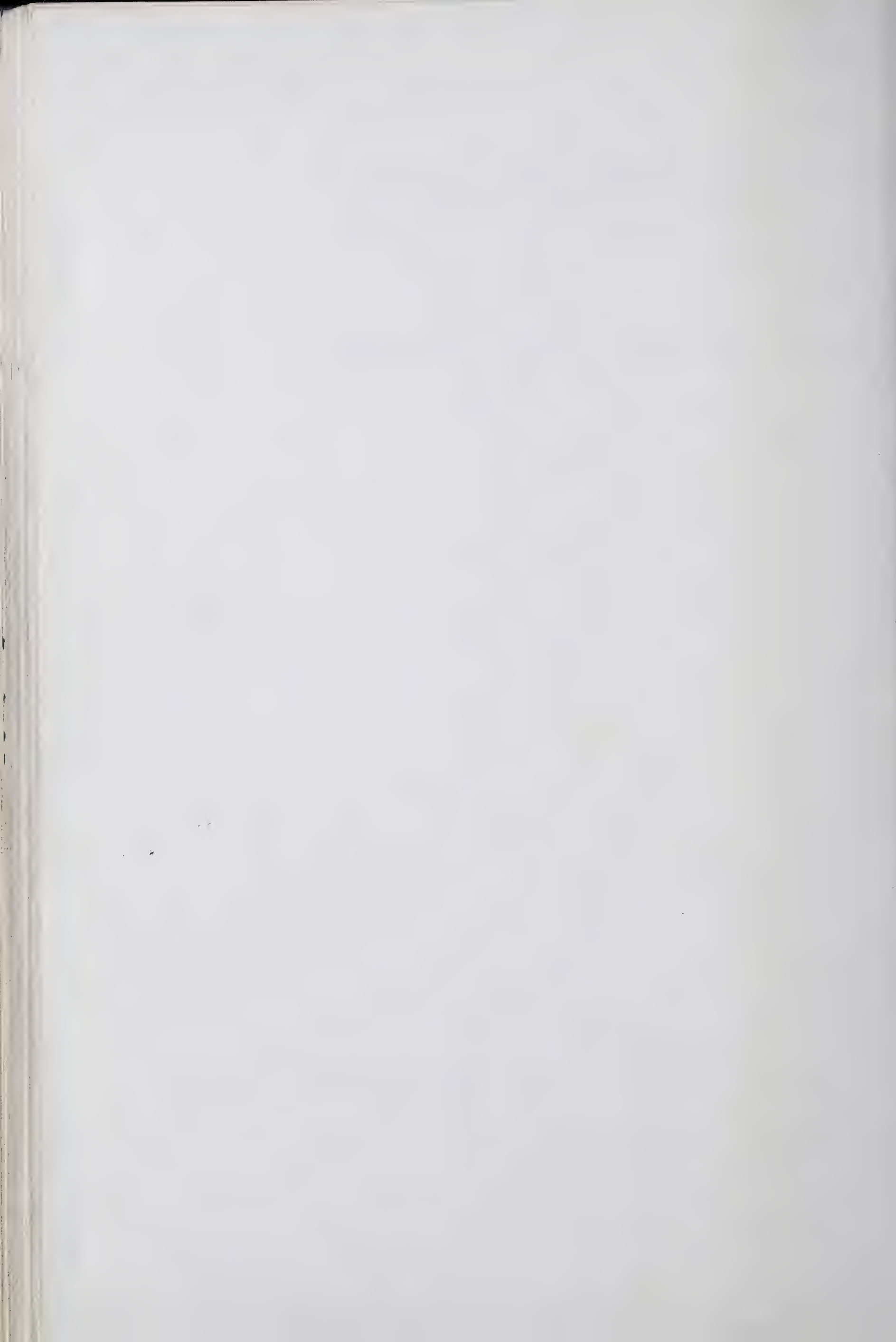
1 ♀ " "

2 ♀ " "

3 ♀ " "

4 ♀ " "

June 2 kept nr. "20 house hole"



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1950

Corynorhinus rafinesquii

April 27 Manhattan Mine, Napa Co.

49-12 3 5 6 5 ♀ small n. ⁱⁿ colony

6 ♀ " "

7 ♀ large n. "

8 ♀ tiny n. "

9 ♀ med. n. "

70 ♀ large n. "

1 ♀ small n. "

2 ♀ large n. "

3 ♀ med. n. "

4 ♀ " "

5 ♀ " "

6 ♀ small n. "

7 ♀ med. n. "

8 ♀ " "

9 ♀ " "

80 ♀ small n. "

1 ♀ med. n. "

2 ♀ " "

3 ♀ " "

4 ♀ large n. "

5 ♀ " "

6 ♀ " "

7 ♀ med. n. "

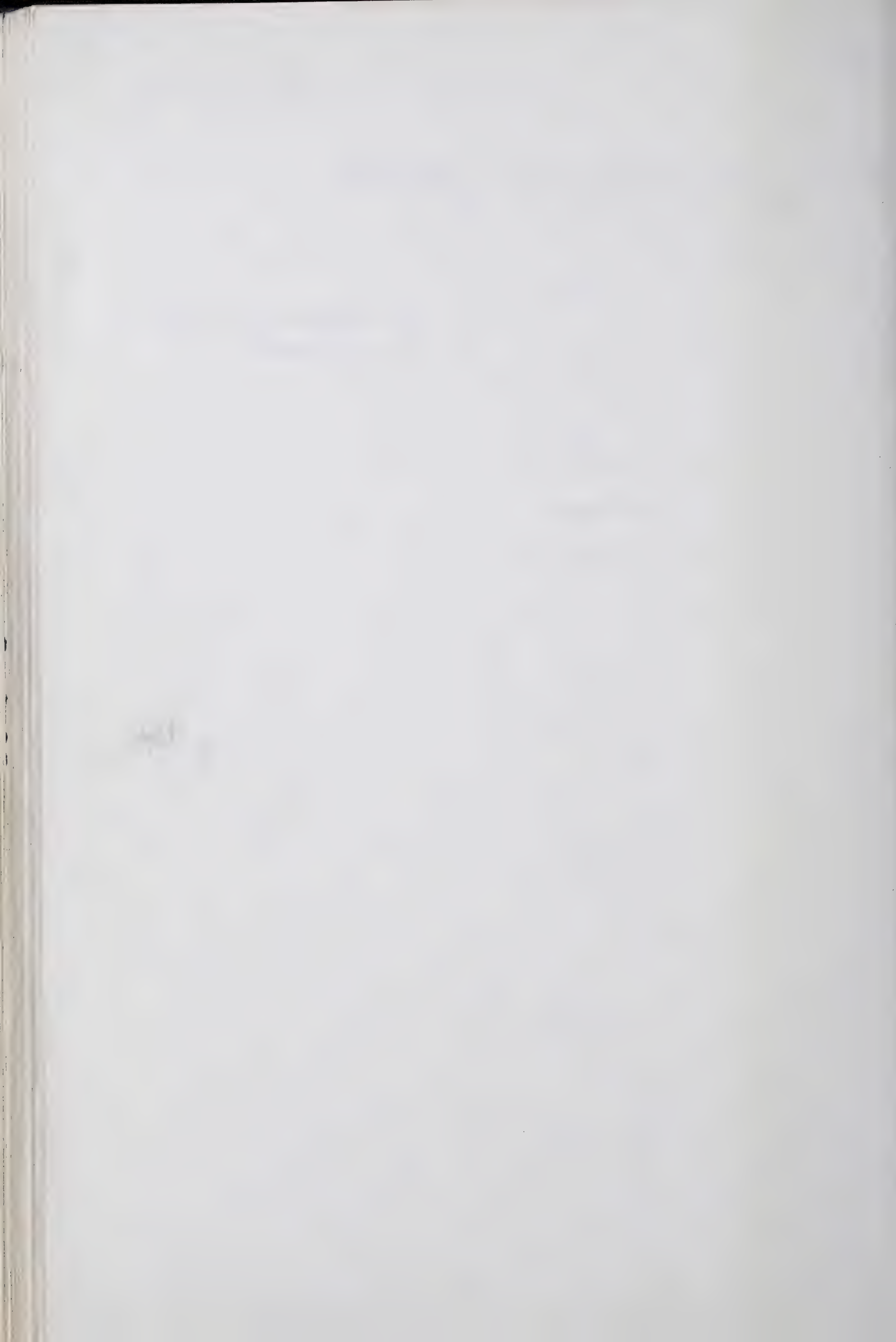
8 ♀ " "

9 ♀ " "

90 ♀ " "

1 ♀ " "

found at (Knoxville?) June 11
by Jack Guggolz



M. Koford
1950

(5-4)

Corynorhinus rafinesquii

April 27 Manhattan Mine, Napa Co.

49-123592 ♀ med. n. ⁱⁿ colony

3 ♀ " "

4 ♀ " "

5 ♀ " "

6 ♀ " "

7 ♀ " "

8 ♀ " "

9 ♀ large n. "

600 ♀ tiny n. "

41-234641 ♀ med. n. "

2 ♀ " "

3 ♀ " "

4 ♀ " "

5 ♀ small n. "

6 ♀ large n. " found at (Knoxville?) den. by Jack Guggolz

7 ♀ med. n. "

8 ♀ " "

9 ♀ " "

50 ♀ " "

1 ♀ " "

2 ♀ " "

3 ♀ " "

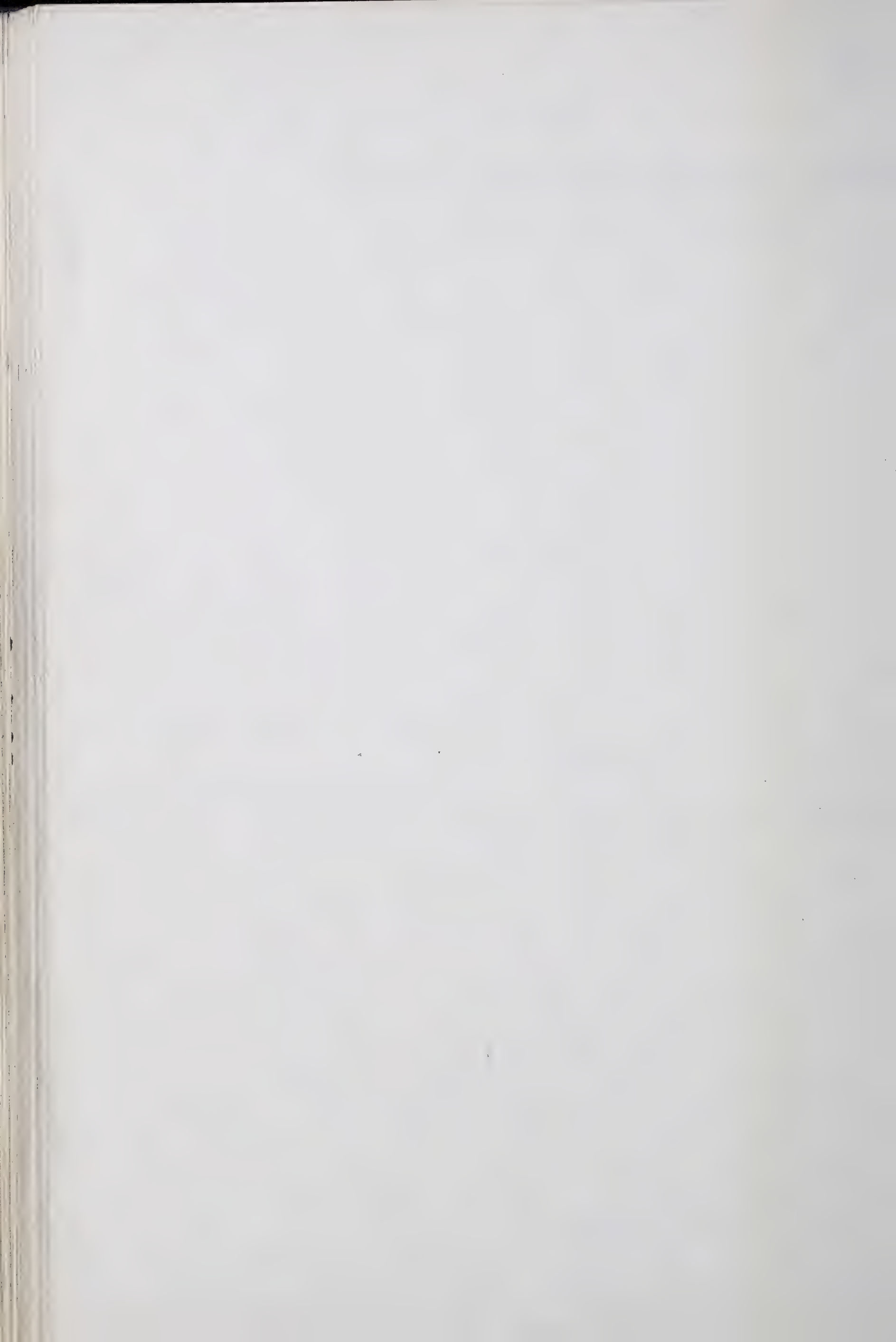
4 ♀ " "

5 ♀ " "

7 ♀ med. n. "

8 ♀ small n. "

9 ♀ med. n. "



N. Koford
1950

Corynorhinus rafinesquii

April 27 Manhattan Mine, Napa Co.

41-234660 ♀ med. n. ⁱⁿ colony

1 ♀ " "

2 ♀ " "

3 ♀ " "

4 ♀ " "

5 ♀ tiny n. "

6 ♀ med. n. "

7 ♀ " "

8 ♀ small n. "

9 ♀ med. n. "

10 ♀ tiny n. "

1 ♀ small n. "

2 ♀ med. n. "

3 ♀ " "

May 4 1.3 mi. SE Orverness, Marin Co.

49-123601 ♀ ^{ch. from} 26963 largen.

2 ♀ ^{ch. from} 26633 med. n. June 5 + young

3 ♀ largen. June 5 lact.

4 ♀ ^{ch. from} 26751 med. n. June 5 + young

5 ♀ ^{ch. from} 26761 largen. June 5 lact

6 ♀ ^{ch. from} 26978 largen. June 5 lact

7 ♀ ^{ch. from} 26658 largen. June 5 lact.

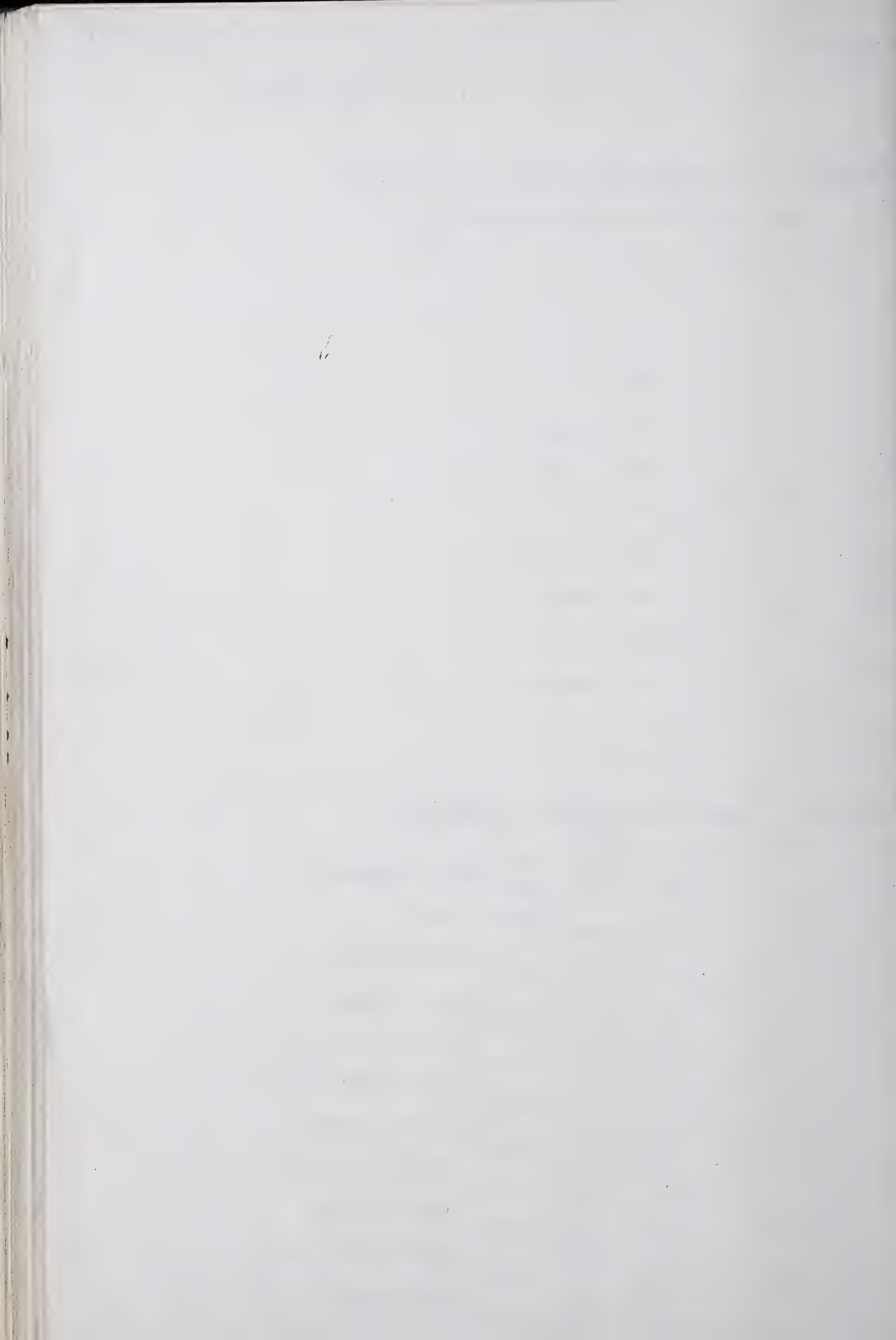
8 ♀ ^{ch. from} 26675 med. n. June 5 + young

9 ♀ ^{ch. from} 26737 med. n. June 5 + young

10 ♀ ^{ch. from} 26688 largen. June 5 lact.

1 ♀ ^{ch. from} 26702 med. n. June 5 '50 + young

2 ♀ ^{ch. from} 26722 med. n. June 5 lact.



M Koford
1950

Corynorhinus rafinesquii

May 4 1.3 mi. SE. Inverness, Marin Co.

June 5 lact.

49-123613 ♀ large n. preg.

4 ♀ med. n.

5 ♀ ch. from 26950 large n.

6 ♀ ch. from 26651 June 5 non-lr. ? Kept

7 ♀ med. n. June 5 + young

8 ♀ ch. from ~~26635~~ 26635 June 5 non-lr. Lump 10 mm.

June 2

Aetna Mine, Napa Co.

701 ♀ young of 2.8 gm. 161781 19 mm.

2 ♂ young of 3.0 gm. 161777 22 mm.

3 ♀ young of 4.5 gm. June 8 4.5 gm. 32 mm. 161783 26 mm.

4 ♀ young of 4.5 gm. 161764 24 mm.

5 ♂ young of 2.3 gm. just June 8 3.7 gm. 23 mm. with 161763 born 17 mm.

6 ♀ young of 4.3 gm. June 8 5.4 gm. 28 mm. 161793 22 mm.

7 ♂ young of 3.3 gm. 161772 17 mm.

8 ♀ young of 2.9 gm. June 8 4.5 gm. 25 mm. 161769 18 mm.

9 ♂ young of 2.8 gm. June 8 3.3 gm. 25 mm. 161757 18 mm.

10 ♀ young of 3.0 gm. umb. June 8 3.9 gm. 25 mm. 161778 18 mm. cord

1 ♂ young of 2.5 gm. June 8 3.8 gm. 24 mm. 161776 18 mm.

2 ♀ young of 2.9 gm. 123023 17 mm.

3 ♀ young of 5.0 gm. June 8 6.0 gm. 32 mm. 123010 24 mm.

4 ♀ young of 2.9 gm. June 8 3.4 gm. 26 mm. 161785 19 mm.

5 ♂ young of 3.3 gm. June 8 4.2 gm. 27 mm. 161792 20 mm.

6 ♀ young of 6.1 gm. ad. noise June 8 with 161771 6.5 gm. 35 mm. 161771 29 mm. ears erect

7 ♀ young of 4.7 gm. " June 8 5.5 gm. 32 mm. 161773 25 mm.

8 ♂ 6.0 gm. June 8 5.5 gm. 33 mm. castrated 27 mm.

9 ♀ 3.5 gm. June 8 5.0 gm. 28 mm. 23 mm.



M. Koford
1950

Corynorhinus rafinesquii

June 5 1.3 mi. SE Inverness, Marin Co.

49-123619	♂	young of	4.0 gm.	
		267480	22 mm.	
		young of	2.9 gm.	June 14 dead
20	♂	123082	19 mm.	
		young of	2.4 gm.	June 14 4.5 gm. 29 mm.
1	♂	123122	19 mm.	
		young of	3.2 gm.	June 14 4.6 gm. 32 mm.
2	♂	26638	21 mm.	
		young of	4.3 gm.	June 14 dead
3	♂	26691	22 mm.	
		young of	4.9 gm.	June 14 6.3 gm. 37 mm.
4	♂	123613	25 mm.	
		young of	4.2 gm.	June 14 5.8 gm. 36 mm.
5	♂	26697	26 mm.	
		young of	7.0 gm.	June 14 dead
6	♂	167935	35 mm.	castrated
		young of	3.9 gm.	June 14 dead
7	♂	123065	22 mm.	
		young of	4.1 gm.	
8	♂	123102	29 mm.	
		young of	3.2 gm.	June 14 dead
9	♂	123069	21 mm.	
		young of	4.7 gm.	June 14 5.5 gm. 35 mm.
30	♂	167931	25 mm.	
		young of	3.1 gm.	June 14 4.5 gm. 34 mm.
1	♂	123050	24 mm.	
		young of	2.6 gm.	June 14 dead
2	♂	123611	19 mm.	
		young of	4.9 gm.	
3	♂	167938	32 mm.	
		young of	3.2 gm.	June 14 5.5 gm. 32 mm.
4	♂	138199	21 mm.	
		young of	2.9 gm.	June 14 5.0 gm. 30 mm.
5	♂	123602	19 mm.	
		6.1 gm.	June 14 7.5 gm. 40 mm.	
6	♂	36 mm.		
		3.5 gm.	June 14 4.4 gm. 31 mm.	
7	♂	19 mm.		
		2.3 gm.	June 14 5.0 gm. 29 mm.	
8	♂	19 mm.		
		5.9 gm.	June 14 5.8 gm. 38 mm.	
9	♂	32 mm.		
		3.5 gm.	June 14 6.0 gm. 36 mm.	
40	♂	27 mm.		
		7.1 gm.	June 14 7.2 gm. 41 mm.	
1	♂	39 mm.	castrated	
		7.5 gm.	June 14 dead	
2	♂	39 mm.	castrated	
		4.5 gm.		
3	♂	29 mm.		
		5.8 gm.	June 14 5.9 gm. 41 mm.	
4	♂	33 mm.		
		4.9 gm.	June 14 5.7 gm. 37 mm.	
5	♂	30 mm.		



M. Koford
1950

Corynorhinus rafinesquii

June 5 1.3 mi. SE Inverness, Marin Co.

49-123646 ♂ 6.4 gr. June 14 6.6 gr. 41 mm. kept
36 mm.

7 ♂ 6.4 gr. June 14 7.1 gr. 41 mm.
35 mm.

8 ♂ 6.0 gr. June 14 6.7 gr. 40 mm.
34 mm.

9 ♂ 6.2 gr. June 14 7.0 gr. 39 mm.
34 mm.

124001 ♀ young of 2.7 gr. June 14 5.6 gr. 31 mm.
26698 20 mm.

2 ♀ changed from
46-26698 + young

3 ♀ young of 5.1 gr. June 14 6.7 gr. 40 mm.
123074 31 mm.

4 ♀ preg.

5 ♀ young of 6.0 gr. June 14 7.0 gr. 40 mm.
26673 35 mm.

6 ♀ young of 4.1 gr. June 14 5.7 gr. 35 mm.
123604 24 mm.

8 ♀ young of 4.7 gr. June 14 5.8 gr. 35 mm.
26676 22 mm.

7 ♀ changed from
26676 + young

9 ♀ young of 3.4 gr. June 14 5.2 gr. 33 mm.
167928 24 mm.

10 ♀ young of 5.2 gr. June 14 5.7 gr. 37 mm.
26773 27 mm.

1 ♀ young of 4.4 gr. June 14 6.2 gr. 37 mm.
123161 27 mm.

2 ♀ young of 4.6 gr. June 14 5.8 gr. 34 mm.
123049 25 mm.

3 ♀ young of 2.1 gr. umb. June 14 5.3 gr. 29 mm.
~~26707~~ 16 mm. odd

4 ♀ young of 5.3 gr. June 14 5.5 gr. 38 mm. on floor alive in a m.
167922 31 mm.

5 ♀ young of 4.4 gr.
123608 25 mm.

6 ♀ young of 5.4 gr. June 14 5.7 gr. 40 mm.
138190 32 mm.

7 ♀ young of 2.7 gr. born June 14 dead
123155 17 mm. in cage

8 ♀ young of 2.9 gr. June 14 5.1 gr. 31 mm.
167913 21 mm.

9 ♀ young of 5.5 gr. June 14 5.5 gr. 38 mm.
123609 31 mm.

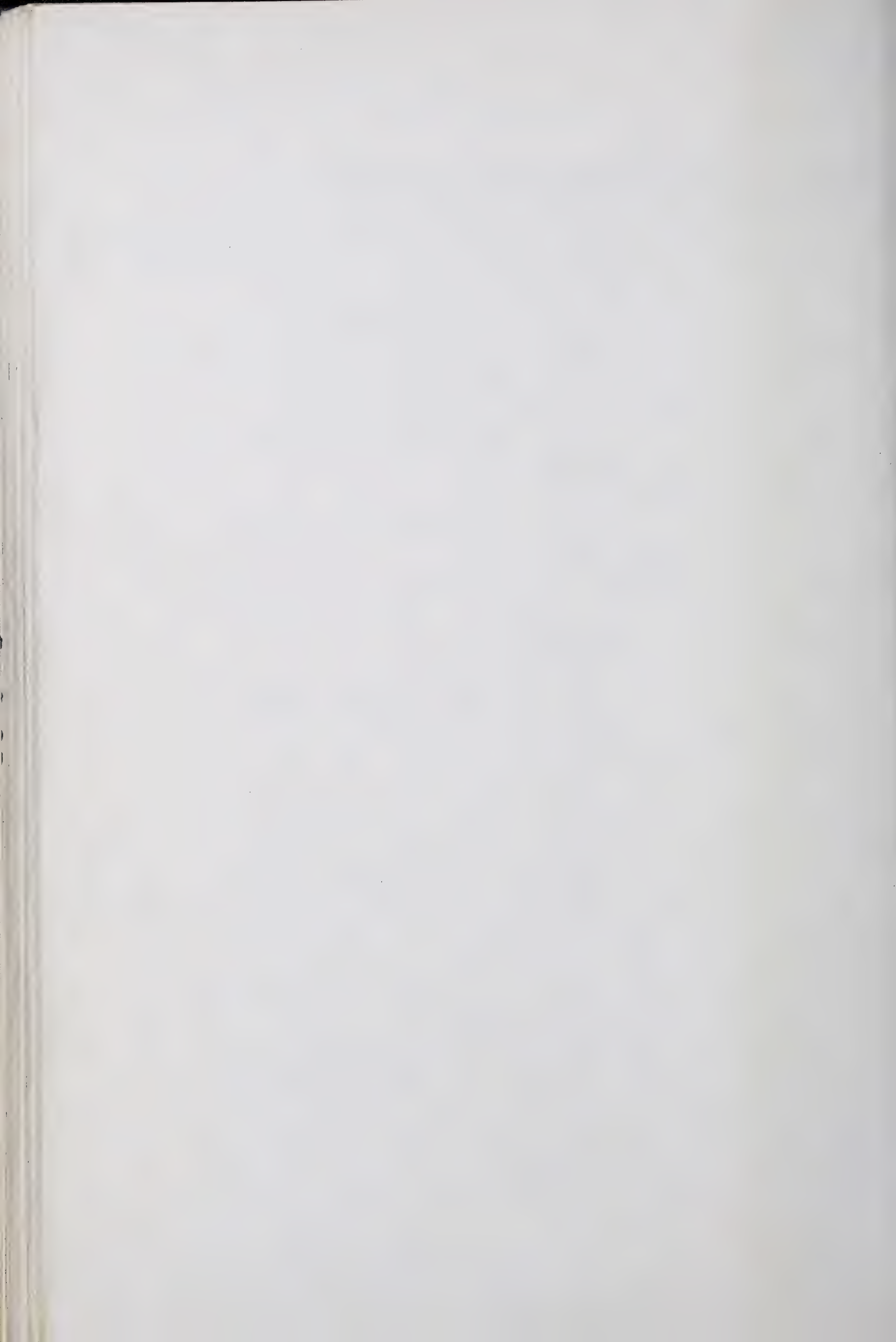
20 ♀ changed from
46-26647 lact.

1 ♀ lact.

2 ♀ 2.7 gr. June 14 4.8 gr. 28 mm.
18 mm.

3 ♀ 2.7 gr. June 14 dead
19 mm.

Recovered at Inverness Park
April 15, 1951 - Red throat
Past Lacos, Petaluma Calif.



m. Koford
1950

(59)

Corynorhinus rafinesquii

June 5 1.3 mi. SE Inverness, Marin Co.

49-124024 ♀ 6.2 gr. June 14 7.0 gr. 39 mm.
32 mm.
5 ♀ 6.6 gr. June 14 7.2 gr. 41 mm.
35 mm.
6 ♀ 6.1 gr. June 14 7.0 gr. 40 mm.
32 mm.
7 ♀ 4.4 gr. June 14 5.1 gr. 35 mm.
25 mm.
8 ♀ 6.8 gr. June 14 7.7 gr. 40 mm.
34 mm.

June 8

Aetna Mine, Napa Co.

123720 ♀ 2.3 gr.
18 mm.
1 ♀ 2.5 gr.
23 mm.
2 ♀ 3.1 gr.
24 mm.
3 ♂ 3.5 gr.
23 mm.
4 ♂ young of 4.3 gr.
161762 25 mm.
5 ♂ 3.2 gr.
20 mm.
6 ♀ 4.8 gr.
32 mm.
7 ♀ young of 3.4 gr.
161759 20 mm.
8 ♂ 2.3 gr.
17 mm.

June 14

1.3 mi. SE Inverness, Marin Co.

2.5 gr.
124029 ♀ 16 mm.
30 ♀ 4.2 gr.
27 mm.

July 26

n. mouth Malpaso Cr., 5 mi. S Carmel, Monterey Co.

123650 ♀ immature
1 ♀ "

M.C. Ramage
1945

Corynorhinus rafinesquii

1.

March 18

1/2 mi. S Angwin, Napa Co., Calif.

Walt found one hanging on a beam of the lower story of the wooden building and I found one ^(?) in the stone building in a little alcove in the door.

April 1

3 mi. SE

4 mi. S Calistoga, Napa Co., Calif.

In the more northern of the two barns on the ranch we visited March 18 we caught 9♀♀ *Corynorhinus* in the attic and about an equal number escaped.

April 21

4 mi. WNW Panoche, San Benito Co., Calif.

In a mine with a very extensive system of tunnels on several levels I got one bat hanging on the ceiling.

June 4

Lebec, Kern Co., Calif.

In a dugout garbage pit where we were trapping bats we got 1 *Corynorhinus* at 11:00 pm.

July 8

1/2 mi. S Angwin, Napa Co., Calif.

Walt got 2 ♂♂ hanging on beams in the lower story (which bldg.?)

Aug. 24

We found 1 ♂ in the attic of the stone building.

Aug. 24

3 mi. SE Calistoga, Napa Co., Calif. (barn attic at Savoy Ranch)

In the attic of the same barn where we got them April 1 we found a large colony, clinging in bunches along the ridgepole.

We collected 31♀♀ and 11 ♂♂. (♀♀ with young of the year?)



C. Ramage
1945

2.

Corynorhinus rafinesquii

Sept. 9

2½ mi. ENE Pescadero, San Mateo Co., Calif.

Dr. Benson found 1 ♂ in the attic of an abandoned house which had a mixed colony of *Antrozous* and *Tadarida* in the wall.

Sept. 11

2 mi. E Santa Cruz, Santa Cruz Co., Calif.

One hanging on a beam in the basement of Charles Russell's home.

Sept. 14

Clear Creek, 2900', 5 mi. SW Newidria, San Benito Co., Calif.

One in the mine tunnel at the Asbestos Mine. It flew back to the end of the tunnel as we followed it, lighting at intervals but flying again as we moved the net toward it. It got past us and we followed it back again toward the entrance, finally catching it as it hung from the ceiling.

Sept. 23

M.C.R.
266-7

2¼ mi. SSE Willbur Springs, 1800', Colusa Co., Calif.

We got 2 (♂, ♀) as they flew about downstairs and in the attic of an empty house, lighting for a few minutes and then flying again at our approach. We did not determine where they emerged from originally, but one flew down to hide under a shelf of a cupboard only a few feet above the floor. In the same house we got 3 *Myotis californicus* (1 ♂, 2 ♀♀). Compared with the flight of the *Myotis*, that of *Corynorhinus* was noticeably slower and more hovering.



C. Ramage
1945

3.

Corynorhinus rafinesquii

Sept. 23 ^{Capay}
1 mi. W ~~Esposito~~, Yolo Co., Calif.

M.C.R. 268

Dr. Benson found 1 ♂ in an empty house,
also 3 *Myotis yumanensis* (1 ♂, 2 ♀♀).

Abbott Mine, 1900', 24 mi. E Lakeport, Lake Co., Calif.

S.B. Benson
9423

We found 1 ♂ in a mine tunnel. We first
saw the bat near the entrance on our way
out, and Dr. Benson knocked it down
with a net as it flew back and forth.

Lucerne, Clear Lake, Lake Co., Calif.

Just north of town, on the east side of the
highway, are two mine tunnels about 100 ft.
long. We reached these just at dusk, put
a net over the entrance to one, and caught
what bats we could inside with hand-
nets and flashlights. The bats would
cling to the ceiling of the cave and fly
readily at our approach. The tunnel
yielded ¹⁴ 15 *M. lucifugus* (1 ♂, ¹³ 14 ♀♀), 4
M. thysanodes (♀♀), 5 *M. yumanensis* (² 2 ♂♂, 3 ♀♀),
and 2 *Corynorhinus* (♂♂). There were no bats
in the other tunnel by the time we got to it,
some time after dark.

S.B. Benson
9452-3

Nov. 4 ~~7~~ 3 mi. SE Calistoga, Napa Co., Calif. (barn at
Savies Ranch)

The barn which contained the large colony
of female *Corynorhinus* ^(Aug. 24) was burned to
the ground.

1/2 mi. S Angwin, 1600', Napa Co., Calif. (old winery)

The only bat seen here this time was one

M.C. Ramage
1945

Corynorhinus rafinesquii

4.

Nov. 4

1/2 mi. S Angwin, 1600', Napa Co., Calif.

♂ *Corynorhinus* which upon examination was found to be breeding (many active sperm).

Las Posadas, 1.8 mi. SE Angwin, Napa Co., Calif.

In the dark attic of a storehouse at the camp we got 1 ♂ & 1 ♀, both with sperm (inactive sperm in uterus of ♀).

Aetna Springs, Napa Co., Calif.

In the dark attic of the kitchen at the resort we got 6 and saw at least 1 more. 5 were ♀'s and the one of these which we examined contained sperm. 1 was a male, perhaps a young of the year, since it apparently was not breeding.

Dec. 1

Lucerne, Clear Lake, Lake Co., Calif.

See Journal Dec. 1 & 2.

Dec. 2

1 mi. NE Sulphur Bank Mine, 10 mi SE Lucerne, Lake Co., Calif.

In an abandoned house Jo Overleese found one ♂ hanging in the corner of a cupboard. In the same house we got 5 *M. yumanensis* (♂♂), 1 *Antrozous* (♂), and 2 *Eptesicus* (♀♀) under wallpaper. All these bats were cold and inactive.

Aetna Springs, Napa Co., Calif.

In the attic where we got the *Corynorhinus* Nov. 4 we found only one — a ♂, cold and inactive, clinging to a beam.



H.C. Ramage
1946

5.

Corynorhinus rafinesquii

- July 9 3 mi. SE Calistoga, Napa Co., Calif. (barn on Reliez Ranch).
After driving out about 50 Antrozous from behind the barn door, I was catching some of them where they had hung up inside the barn. Hanging from a beam in a dark corner downstairs was one Corynorhinus. This was about 6:00 p.m. The bat was active and flew at my approach. (The other barn at this ranch used to have a Corynorhinus colony - see Nov. 4, 1945).
- July 14 1/2 mi. S Angwin, Napa Co., Calif.
At 2:00 p.m., saw 1 Corynorhinus on a beam downstairs in the corner of the wooden building at the old winery. It was active and we failed to catch it with the net.
- Aug. 7 Just at dusk, again saw 1 Corynorhinus on the lower floor of the wooden building but failed to catch it. In the same building I caught a Myotis thysanodes.
- Sept. 28 Lucerne, Clear Lake, Lake Co., Calif.
We arrived at 5:30 p.m. at the mine tunnels visited Dec. 1, 1945. The temperature outside was 83°F. and at the back of the north tunnel 64°F. There was 1 ♂ Myotis lucifugus in the north tunnel and 5 ♂♂ Myotis and ~~the~~ 1 ♀ + 1 ♂ Corynorhinus in the south tunnel. All were active and flew when approached. We banded them all and



M.C. Ramage
1946

6.

Corynorhinus rafinesquii

Sept. 28

Lucerne, Clear Lake, Lake Co., Calif.
and released all but one Corynorhinus
in the tunnels where they were taken. Those
released inside remained, except 1 Myotis
which flew out. The Corynorhinus
released outside disappeared into the trees.
At 7:30 it was dark, the temperature was
79° F. outside and 64° F. in the north cave.
In the north cave were 4 unbanded
Myotis and in the south cave were the
banded ♂ Corynorhinus and 1 banded
♂ Myotis which were there before. All
were released outside. During the rest
of the night all the bats in the caves
were caught at least every two hours
but no more Corynorhinus appeared
although the number of Myotis greatly
increased.

Oct. 19-20

During the night we caught and released
(already banded Sept. 28 5:30 & 7:30 in the other tunnel)
1 ♂, 1 ♀ at 4:00 p.m., 1 ♂, 1 ♀ at 5:00 (missed
at 4:00), 1 ♂ at 7:00 (^{the same one taken at 4:00} ~~already banded Sept. 28~~
~~5:30 & 7:30 in the other tunnel~~) 1 ♂, 1 ♀ at 8:00
(♂ = same one taken at ^{4:00} 7:00), 1 ♀ at 12:30, and
1 ♀ at 4:30. See table in journal for other
bats taken with these.

Oct. 20

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
2 ♂♂, 2 ♀♀ were caught flying in an abandoned
house, banded, & released. Probably all



M.C. Ramage
1946

7.

Corynorhinus rafinesquii

Oct. 20 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
were in the dark basement before we disturbed them. *Myotis californicus*, *volans*, and *yumanensis*, were taken under wallpaper in the house at the same time and *M. yumanensis*, *Antrozous*, *Eptesicus*, & *Corynorhinus*⁽¹⁾ on Dec. 2, 1945. On this first visit we did not enter the basement.
4 mi. E + 1.8 mi. S Lower Lake, 1375', Lake Co., Calif.
In an empty house we got 1 ♂ + 1 ♀ flying and 1 *M. californicus* under wallpaper.
Knoxville, 1262', Napa Co., Calif.

In 3 mine tunnels, all horizontal tunnels ~~on a level with the ground outside~~, we got 4 *Corynorhinus* (3 ♀♀, 1 ♂). In the tunnel where we got 2, a third escaped.

Nov. 16 Lucerne, Clear Lake, Lake Co., Calif.

In a night's banding operations, we caught 2 ♂♂ at 4:30^(before dark) p.m., one in each tunnel. The one in the north tunnel had been banded in the same tunnel Oct. 19 at 5:00 p.m. (also before dark). The one in the south tunnel was caught Sept. 28 at 5:30 p.m. (also before dark) in the south tunnel, at 7:30 in the south tunnel, Oct. 19 at 4:00 p.m., 7:00, & 8:00 in the north tunnel. During the rest of the night we got 1 new ♂ in the south tunnel at 11:00,



M.C. Ramage
1946

8.

Corynorhinus rafinesquii

Nov. 17 Lucerne, Clear Lake, Lake Co., Calif.

One new ♀ in the south tunnel at 1:00, and
1 new ♂ in the north tunnel at 3:00.

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the same empty house where we
collected Oct. 20, Benson & Koford found
2 ♂♂ which we banded and released.

Nov. 24 Los Altos, Santa Clara Co., Calif.

Dr. Benson found 1 ♂, cold and inactive at
about 10:30 a.m. in the dark attic of the
barn at the Kurtz ranch. ^{prep. Nov. 27 -} epididymis very large

Mission San Jose, Alameda Co., Calif.

We could find no bats.

Nov. 29 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the empty house where we have
collected and banded bats several times,
Dr. Benson got 3 ♀♀ (unbanded) in the
basement and 1 ♂ in the attic which we
had banded Nov. 17. All were cold & torpid.
All banded & released.

Lucerne, Clear Lake, Lake Co., Calif.

(see journal)
During the night's banding operations we
found *Corynorhinus* only once, at 10:00 in
the south tunnel, 1 new ♂ and 1 ♀ banded
Oct. 19 4:00 p.m. S.

Nov. 30 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the same house there was one new ♀ which
we banded, cold and torpid, under the house (not in basement)

N.C. Ramage
1946

9.

Corynorhinus rafinesquii

Nov. 30 1900', $5\frac{1}{2}$ mi. W + 1 mi. N Lower Lake, Lake Co., Calif.
Under an abandoned house 1 ♂ was found only about 1 ft. above the ground where a shallow space continued back under the house beyond the basement. It was cold and torpid. After it had warmed up it was banded and released outside at which time it flew without hesitation through the window into the attic.

Lucerne, Clear Lake, Lake Co., Calif.

At 6:00 p.m. there was one new ♂ in the south tunnel, the only bat seen in the tunnels all night. (See journal.)

Dec. 1 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
Under the house (not in the basement) was the same ♂ found in the attic Nov. 29 and one new ♂ which we banded.

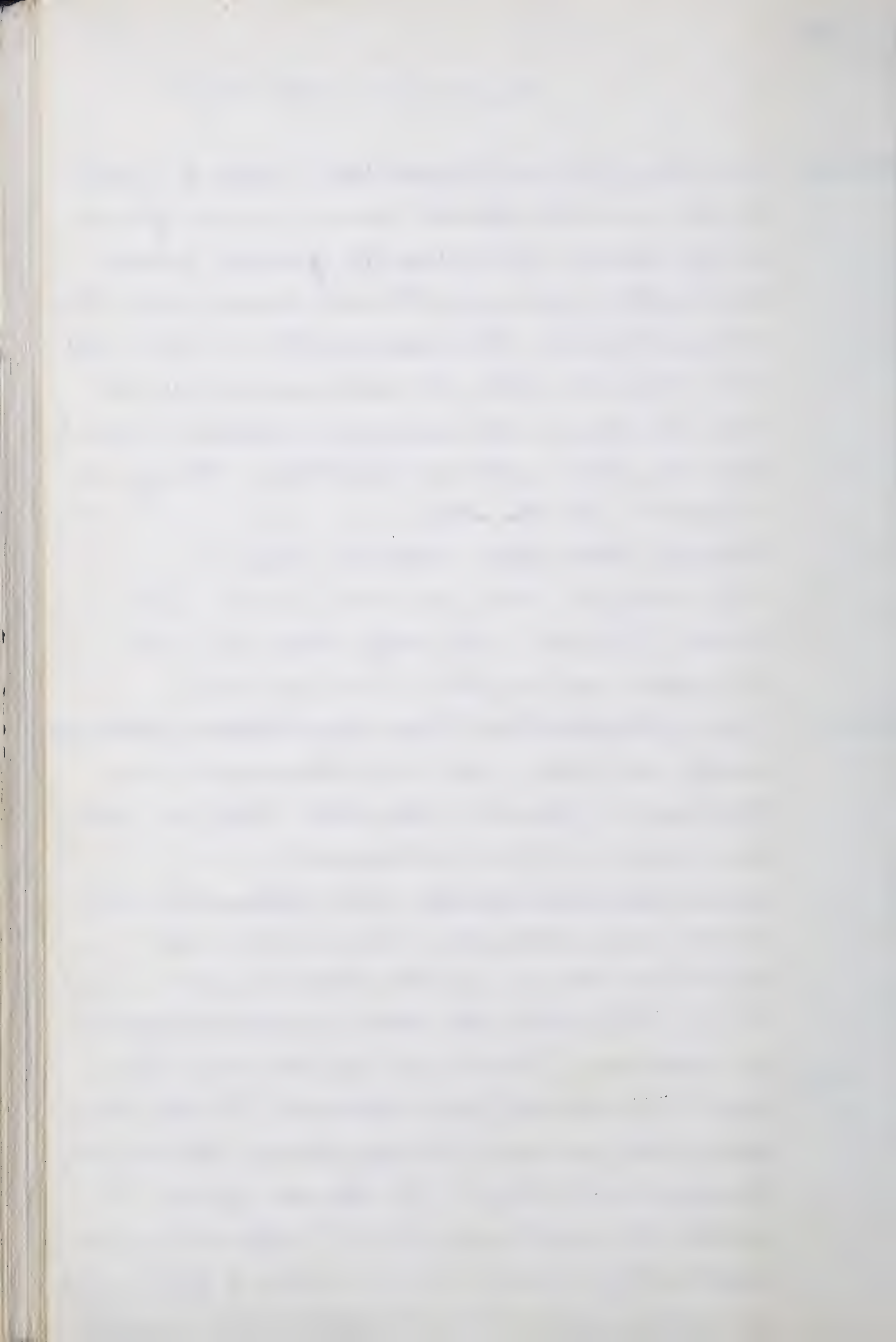
$2\frac{1}{4}$ mi. SSE Wilbur Springs, 1800', Colusa Co., Calif.

at the same abandoned house where we collected two in flight Sept. 23, 1945, we got 4 (1 ♂, 3 ♀♀) under the house, cold and torpid.

died
Jan. 17 I kept one of the ♀'s to try to keep alive and we banded and released the other three.

Bear Creek, $6\frac{1}{2}$ mi SE Wilbur Springs, Colusa Co., Calif.

(Bridge 1536 on Hwy. 16) Dr. Benson found 1 ♂ under the south end of the bridge where the supporting beams came within a few inches of the ground making it quite dark. Cold & torpid - banded & put back.



H. C. Ramage
1946

10.

Corynorhinus rafinesquii

Dec. 1 Cache Creek, 650', about 3 mi. WNW Rumsey, Yolo Co., Calif.
Benson & Hooford waded across the creek to look in an abandoned stone house. In the shower, a smaller stone building next to the house, they found 1 ♂ hanging on the rough wall, cold and torpid. This was saved as a specimen and was very fat.

1 mi. W Capay, Yolo Co., Calif.

In the same empty house where we collected Sept. 23, 1945, I found 1 ♀ in a space under the stairs which had to be entered through a doorway about 2 ft. square near the floor. The bat was not visible through this hole since it was on the back (dark) side of a stairway support. Like all the others found on this trip it was torpid. This one was saved in order to try to keep it alive.

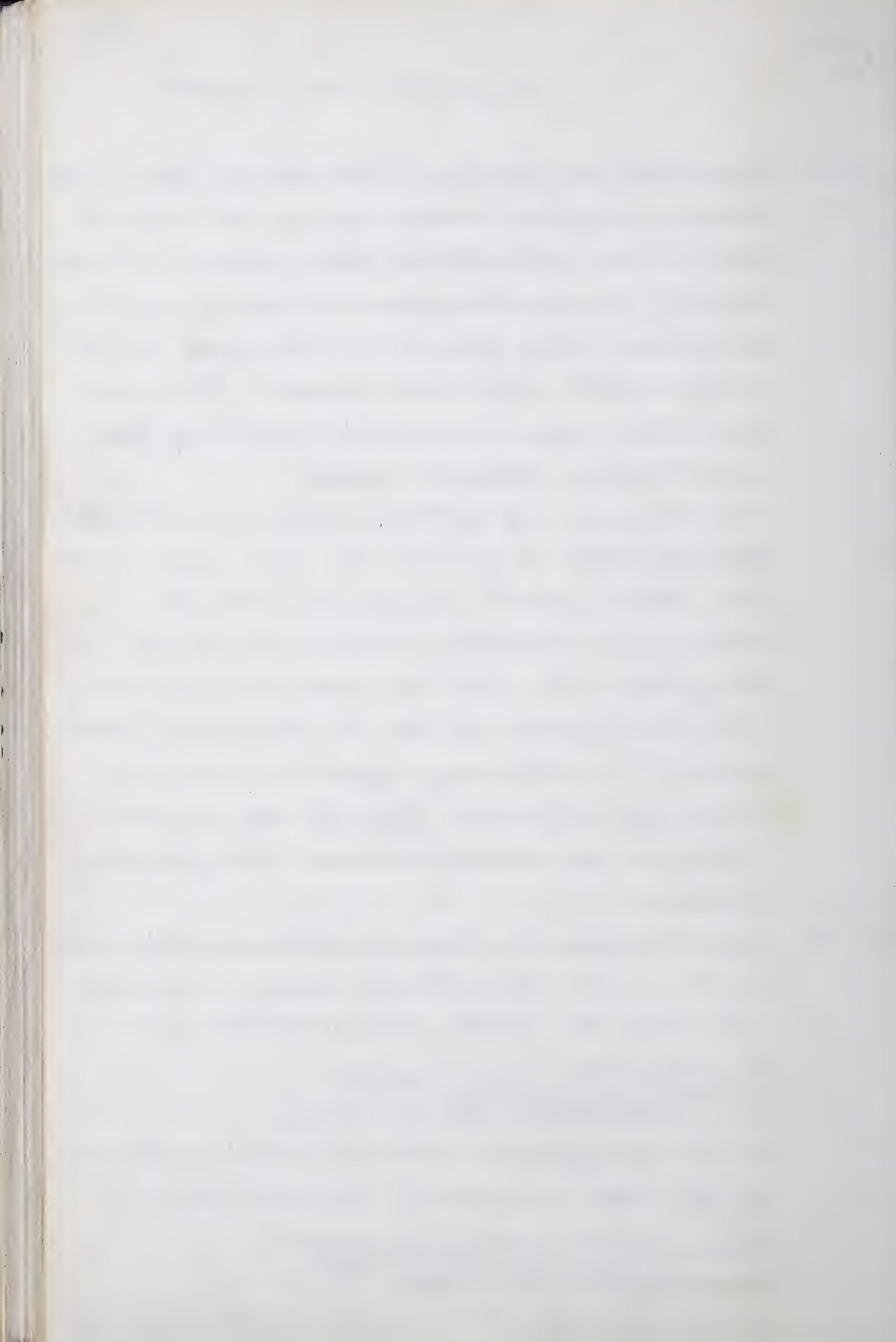
Dec. 28 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
In the same abandoned house we found 1 ♂ under the house, the one which we banded Dec. 1.

4.8 mi. NW Highland Springs, 1800 ft.,
~~Trapperville~~, Lake Co., Calif.

In an empty house above the road at the top of the ridge we found 1 ♂, cold & torpid, on a rafter under the house.

1 mi. SE near Mouth Cheney gulch, 25 ft.,
1 Bodoga Bay, Sonoma Co., Calif.

In an empty house Dr. Benson found 1 ♂ under the house.



M.C. Ramage
1947

Corynorhinus rafinesquii

11.

Jan. 16

Berkeley - I put up today 2 ♀♀ collected Dec. 31, 1946 by D.V. Hemphill at the Muriel Bee Mine, 4 mi. W Wickman, 5800', Lyon Co., Nevada. He found 5 apparently hibernating. All were hanging singly from the side walls about 30' from the entrance of the upper tunnel. He prepared two ♂♂. The fifth was chewed up by Peromyscus truei of which he caught 4 in the lower tunnel. The temperature inside was above freezing. The mine is at the lowest margin of the piñon-juniper. Formerly he took a Myotis subulatus here (specimen in MVZ). Also on Dec. 31 he took 1 ♂ at the Cambridge Mine on a side wall about 100' from the entrance. There were many droppings in this tunnel but he had no time to explore it thoroughly.

M. Koford
1947

Corynorhinus rafinesquii

Feb. 8 7 mi. S Vicksburg (S.B. Co.), Riverside Mts., in Riverside Co., Calif.

In a horizontal mine shaft about 30' long we found 1 ♀ at 10:00 p.m. This tunnel has been used for powder storage. It is one of several holes in the sides of a small canyon, some of them quite extensive. It is lower than the others, being at the level of the canyon floor. We had entered it during the day and also at about 7:30 and found no bats altho droppings were numerous.

March 8 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the basement of the old house were 7 ♀♀, 4 unbanded which we banded and released, and 3 returns, one banded Oct. 20, one Nov. 29 in the basement, and one Nov. 30 under the house. In the attic Dr. Benson found 1 ♂, banded Nov. 17 and taken subsequently Nov. 29 in the attic and Dec. 1 under the house.

Lucerne, Clear Lake, Lake Co., Calif.

During the night's banding operations we took 1 ♂ in the south cave at 8:00 p.m., 10:30 p.m., 1:00 a.m., and 3:30 a.m. It was taken Sept. 28 at 5:30 & 7:30 p.m. in the south cave, Oct. 19 at 4:00, 7:00, & 8:00 p.m. in the north, and Nov. 16 at 4:30 p.m. in the south.



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13.

Corynorhinus rafinesquii

March 9 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

We found nothing here this morning but one unbanded ♂, ^{under the house} which we banded. The temperature in the basement is 45°F. at 10:30 am (52° outside). It may be slightly warmer than yesterday as it has since started to rain.

March 19 Berkeley The ♀ collected Dec. 1, 1946 1 mi. W Capay, Yolo Co., died some time during the night.

I found it at about 9:30 p.m. on the floor of the cage flopping about and apparently unable to fly. I hung it back up but in the morning it was on the floor dead. Its stomach and intestine were full but it was very thin. All the food supply for some time has been larvae rather than pupae and the bats cannot eat nearly so many of these because they require so much chewing. This combined with the fact that they probably contain much more undigestible material than the nearly liquid pupae may simply have led to starvation.

March 29 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the basement was a ♂ banded March 9 (caught under the house) and under the house were two unbanded ♀♀. This was about mid-afternoon and all were immediately replaced. About 10 minutes later I saw a

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Corynorhinus rafinesquii

14.

March 29

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
bat flying outside. I returned to the basement and found that the bat I had left there was gone.

Lucerne During the night's banding operations we took only 2 *Corynorhinus* - 1♂, 1♀ - at 5:00 pm in the north cave, both new.

March 30

1 mi. NE S.B.M. This morning there was one new ♀ in the basement which I kept and one ♂ under the house banded Nov. 29 (♂ in the basement).

April 19

In the basement was 1 banded ♂. I don't know the number because the one I recorded is not the number of a *Corynorhinus*.

Lucerne One unbanded ♂ was in the north cave when we arrived at 3:30 pm. The same bat was in the same cave at 8:00, 9:30, and 12:00.

May 2

Albion, Mendocino Co., Calif.

Last weekend Donald V. Hemphill visited the abandoned lumber camp which Pacific Union College is planning to use as a biological station this summer. In the attic of one of the buildings about 1 hour after dark he saw at least 25 *Corynorhinus* and collected two, which proved to be pregnant ♀♀. We arrived at the camp at 2:00 pm today. First

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15.

Corynorhinus rafinesquii

May 2

Albion, Mendocino Co., Calif.

we entered the attic where Hemphill found the bats. It is a dark one with an entrance as a trap door over the porch. There were very few bat droppings and none that seemed fresh. We got 1 ♂ Myotis yumanensis here. We then began the rounds of the attics. Most of the buildings are of similar design with the entrance to the attic not a trap door but a vertical one in the end wall. In the only other attic which seemed dark enough for Corynorhinus we found 200 ♀♀. We caught and banded most of them and had them back in place before dark. The only entrance was the one door which was standing ajar. The bats were clinging in clusters along the ridgepole. We closed the door and caught them with nets. They flew readily but tended to settle again in clusters at the point farthest from where we were at the moment. A few escaped from the sacks outside during banding and at least one escaped from the attic after nearly all the bats had been caught by flying through a small hole in the corner under the eaves. We handled them during banding by ^{changing} ~~turning~~ the sacks upside down with the mouths open and transferring the

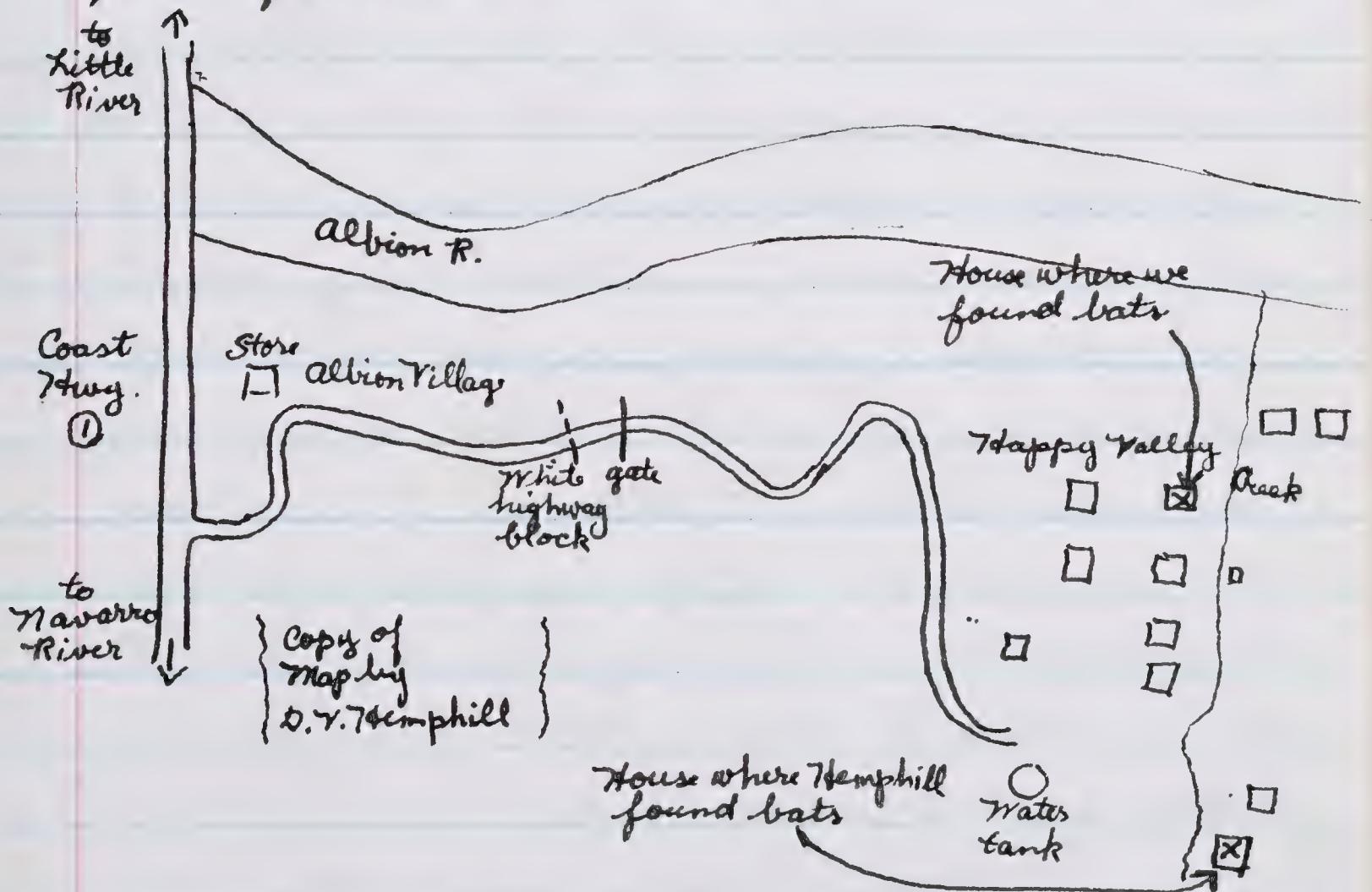
M. Koford
1947

Corynorhinus rafinesquii

May 2

Albion, Mendocino Co., Calif.

bats from one sack to the other. We lost very few this way because the bats tended to crawl upward. The only difficulty came in starting a new sack since the bats definitely tended to crawl towards any group already present in the sack. When finally released they settled down into much the same condition as that in which we first found them.



May 3

Lucerne, Clear Lake, Lake Co., Calif.

During the night's banding (see journal) we got 1 new (sex not recorded) in the north cave at 5:15 pm and 1 new ♂ in the south cave at 10:30 pm.

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Corynorhinus rafinesquii

Lucerne, Clear Lake, Lake Co., Calif.

May 23

at 6:30 pm (temp. outside 28°C.) we banded one (sex unrecorded) in the north tunnel.

May 24-25

Albion, Mendocino Co., Calif.

We arrived here at noon. There were no bats in the attic where we found the *Corynorhinus* last time. In the house where Thompson found the bats there was a large group all hanging together in one cluster ^{near} ~~at~~ the dark end of the attic. It could have been as many as 200 - I couldn't tell. I caught ¹⁹ ~~18~~ in a net. 14 were banded and of these all but one had very sore areas about the bands, quite swollen in most cases. Two bats were carrying young, apparently new-born, probably in the sack after capture. I banded 4 of the ⁽⁵⁾ unbanded ones and the young of one banded ♀, a ♂. The other ♀ with young ^(a ♀) was an unbanded one which I kept. Before I released them another had given birth but the young ^(a ♀) was separated from the mother which flew before I located her. In the evening we saw no activity until almost dark (between 7:30 & 7:45 - temp. outside 9°C.) when I could see bats flying around the house and in and out the attic entrance. I heard

(19)
(100 small)

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18.

Corynorhinus rafinesquii

May 24-25 Albion, Mendocino Co., Calif.

no sounds from the attic. At daybreak (4:30 am - temp. outside 8°C.) there were still several bats flying around the house and considerable squeaking from within. At about 6:30 I went in and found the bats exactly as they had been the day before.

May 25

Berkeley When we got back tonight the ♀ with young and also the young whose mother escaped were still alive, although the latter had been given nothing to eat. I fed the orphan milk from a pipette and tried without success to give the mother bat some. When placed in a cage with a pan of water, she left her young hanging on the top and went down to drink. When she returned to it she spent some time licking it.

They had very loud voices, as strong as any adults.

May 26

The orphan is still alive and I fed it milk again. The mother and young are also alive. The mother was torpid this morning with the young clinging to her, almost hidden by her ^(left) wing which formed a pocket around it. Tonight shortly after dark the mother was active and hanging separated from the young. I tried to feed her ~~po~~ fly pupae which she refused. She accepted termites however and ate

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Corynorhinus rafinesquii

May 26

Berkeley

about 20. Tonight I weighed and measured the orphan young: length 50 mm., wingspread 105 mm., wt. 2.6 gm. I had brought back one dead banded ♀ which I killed accidentally by putting my knee on the sack when releasing the bats. It was too far gone to save as a specimen but I kept its embryo in alcohol. (29 mm. when straightened out. measurements: 29-9-5-5) #613 penis 2 mm.)

May 27

The mother bat was torpid this morning and hanging separate from the baby which was also quiet. I aroused her and fed her some more termites. Tonight just after dark I found the mother still torpid and the young on the floor of the cage. I hung up the young one near the mother and left for about 10 min. When I returned the mother was active and the young was on the floor dead. I placed the mother on the floor next to it. She took its head in her mouth and held it for a few minutes, then flew to the top of the cage. I tried without much luck to feed her and finally left ~~put~~ some decapitated termites in a dish in the cage. (She drops the heads just as the *Myotis californicus* did.) I saved her dead young in alcohol. The orphan is still alive. I added some halibut liver oil to its milk tonight.

measurements: 50-18-11-13 #614

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20.

Corynorhinus rafinesquii

May 29

Berkeley The young one kept since May 24 was dead this a.m. (#562).

June 11

Albion, Mendocino Co., Calif.

At 5:00 p.m. we found the bats in the same place where they were May 24 even to their position in two groups side by side at the north end of the building.

We took a sample for recording and banding, some from the bunch and some which were flying about after we had disturbed the bunch.

Of 26 adults, 4 were unbanded.

Most of the banded wings were sore but some bands were in good condition. Of the young (9♂, 7♀), 8 (5♂, 3♀) were small (ears curled back against head, obviously unable to fly), one (♀) was able to fly a few feet, and 7 (4♂, 3♀) were volant.

Of the 26 adults, 15 were without young but were or had been nursing, 1 was apparently pregnant, 1 was apparently neither pregnant nor nursing, 8 had small young (some of these caught flying with young clinging on), and one had a young one which was able to fly several feet alone. This last was seen flying with the young one clinging on.

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21.

Corynorhinus rafinesquii

June 11

Albion, Mendocino Co., Calif.

at 8:00 pm (temp. 10°C. outside) while it was still light enough to see, there were bats flying about the building. At 9:00 we entered the attic and blocked the entrance which remained blocked until 11:00 when we left. When we entered most of the bats were in the same two groups and some were scattered over the attic. We caught all that we could find. They were nearly all young, from very small to volant ones.

The new ones banded were 39 ♂♂ (One of these died and 3 lost their bands in the sack and so escaped unbanded), 33 ♀♀ (one of these died; one was with an ^(banded) adult ♀), and one adult ^{lactating} ♀. The returns were 3 adult ♀♀ (2 lactating & 1 with small young - see above), and all the young banded this afternoon except 2 volant ♂♂, 1 small ♂, & 1 volant ♀. The small young present included the smallest one banded this afternoon. Also present was the young one banded at birth May 24, but I failed to note its size as its presence was not

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22.

Corynorhinus rafinesquii

June 12

Albion, Mendocino Co., Calif.

realized until I checked over the numbers later. At 10:00 am I again entered the attic. This time all the bats were in one bunch. I could not be sure whether or not they had all returned.

I took a sample from the bunch, which proved to be one ~~lactating~~ ♀, one volant young, and one ♀ with young (young banded alone last night). Other bats seen in the bunch (after disturbance) were volant young, small young alone, and adults with and without young. Seen flying after disturbance were ♀'s with banded young, lone adults, and lone young.

Zucerne, Lake Co.

In a night's banding we got 2 *Corynorhinus*, both at 6:00 pm: one ~~new~~ ♂ in the N cave, and 1 ♂ in the S cave banded Nov. 29 at 10:00 pm S cave.

June 13

1 mi. NE Sulphur Bank Mine No *Corynorhinus*.

July 15

Zucerne The only one seen in a night's banding was one ♂ at 6:30 am banded June 12 at 6:00 pm N. It was active, while a *M. thysanodes* taken at the same time was very torpid.

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Corynorhinus rafinesquii

July 16

1.3 mi. S E of Werness, Marin Co., Calif.

The bats here are in a large stable the lower part of which is partitioned into rooms. The upper floor is mostly open up to the roof with several skylights and windows making it quite light. Everything is glass-covered so that there is no opening to the outside. At one end there is a room finished off, leaving a dark attic about 15 ft. deep open at the end into the main attic. I entered the attic at about noon and blocked off this end. ~~where the bats~~ Before I could get it closed a number had flown out. These flew about the light attic and mostly settled in a bunch at the far end along the ridgepole. Others flew downstairs and settled in groups or singly on rafters in dark rooms. By late afternoon they had become so settled that I ceased to see bats flying about. Meanwhile I had caught perhaps $\frac{1}{3}$ or $\frac{1}{4}$ of them. I then entered the dark attic and caught all the bats within reach. Some got down out of reach in the spaces extending down into the eaves. One

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Corynorhinus rafinesquii

July 16

1.3 mi. SE Inverness, Marin Co., Calif.

good-sized cluster of bats formed in one of these. These spaces ~~are~~ about 4" wide and perhaps 8' deep and most end blindly. In one or two places boards are torn away affording an opening to the outside. I banded all but 3 adult ♀♀ & 1 immature ♂ which I saved for specimens. About 90 of them I released inside before dark, but the last 60 were released outside at about 9:00 pm (after the bats were flying). It was quite dark before any started to fly. I watched outside to see how they left the building. I saw none come out through the broken ^{✓ enter} leaves. The only place I saw them leave [✓] was through a crack about 1½" wide in a ledge (horizontal) over a window just outside the dark end of the attic. They must have flown ^{and lit, then dropped out, in leaving,} to the crack and caught hold to go in. ~~through~~ Of the bats caught flying about the bldg. (those that left first on disturbance), ¹⁶ ~~14~~ were ♀♀ lactating or recently so, ^{5 doubtful ♀♀} 11 were immature ♀♀, and 3 were immature ♂♂. Of those caught in the attic (the remaining ones with the exception of those which

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Corynorhinus rafinesquii

July 16

1.3 mi. SE Inverness, Marin Co., Calif.
retreated to the eaves), ^{65 (32)} 64 were ♀♀ lactating
or recently so, ²⁰ 24 were immature ♀♀, ⁽¹⁴⁴⁸⁾ and 27 were immature ♂♂. There were
a few doubtful ♀♀, in adult pelage
but apparently not having lactated
recently. The young were in various
conditions of pelage from gray
through mixtures of various proportions
of gray with the lighter more reddish
adult color to some which appeared
practically adult.

July 16

Cooper School, $\frac{1}{2}$ mi. N + 2 mi. E Point Sur, Monterey Co., Calif.

Carl collected a lone ♂ in the old Cowry ^(? - Cooper on map)
Schoolhouse. The attic was broken into
and light at one end and the bat
was in the dark end about 3' down
from the peak of the roof. It flew
when approached and hung up at the
other end. When approached there it
returned to its original position. Finally
it flew out and hung up on the porch,
where he caught it.

July 19

mouth of Malpaso Cr., 5 mi. S Carmel, Monterey Co., Calif.

We went into an empty house with plenty
of wallpaper and dark closets, two dark
rooms upstairs, an attic dark at one
end, and a side attic under the eaves.

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26.

Corynorhinus rafinerquii

July 19 mouth of Malpas Cr., 5 mi. S Carmel, Monterey Co., Calif.
In this last place we found the bats.
It is dark and runs the length of
the house. It connects with the
higher attic through spaces similar
to those into which I just observed
Corynorhinus retreating at the
Inverness colony. There is also an
entrance to it through an upstairs
room. We didn't have the bands along,
so disturbed the bats only enough to
see that there was a large bunch at
the end away from the entrance. We
took for specimens 2 adult ♀♀ which
we caught flying after the bats were
disturbed. Downstairs was a mummified
Corynorhinus stuck up on the wall.

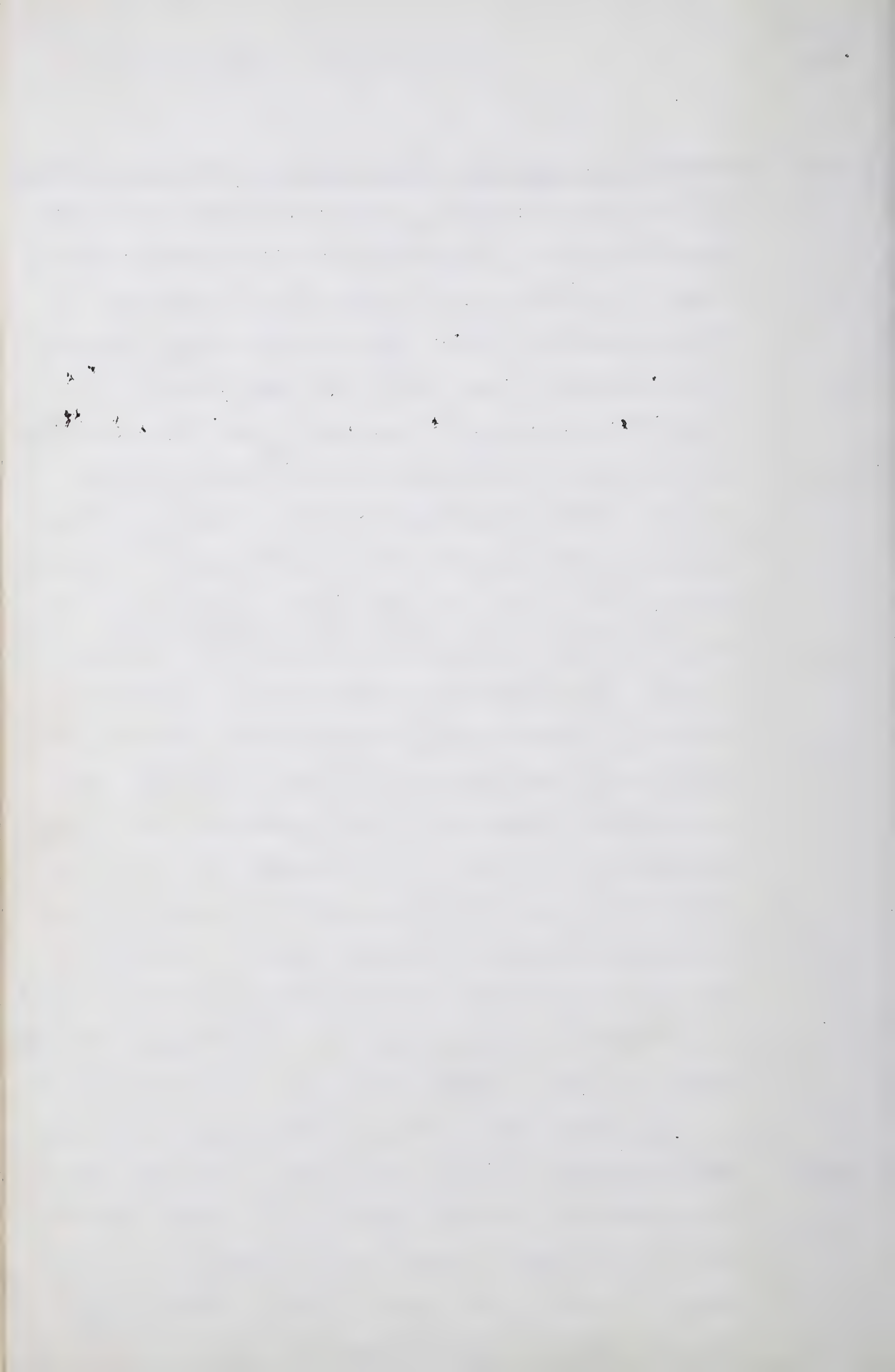
July 21 We returned to the house at about 10:00 a.m.
There were no bats in the attic where we
found them before and on first
inspection appeared to be none in the upper
attic. I heard bats squeaking and
went back ~~into~~ to the darkest end. On
the back (dark side) of a rafter right up
at the ridgepole was a small cluster. I
caught most of them. Several flew, some
of them into the side attic. We chased
them out of here and caught two in one

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27.

Corynorhinus rafinesquii

- July 21 mouth of Malpaso Cr., 5 mi. S Carmel, Monterey Co., Calif.
of the dark rooms upstairs. Carl caught another in a cupboard downstairs which was torpid and evidently not one of those which had been recently flying. We banded and released the bats -
4 ♀♀ lactating or recently so, 3 immature ♀♀, and 4 immature ♂♂. Some of these had well-developed testes, bigger than those of the bat Carl got July 16 which may therefore have been a young of the year, ^{although I have no reason to believe so.} The immatures were gray and the adults reddish, redder than those at Inverness I think. Some of the young had patches of reddish hair on the sides of the neck. I took one of the ♂♂ outside the house to release it. It flew into a garage and, when disturbed there, into a small out house. Here it clung to the wall and let me catch it by hand. I released it again outside this bldg. and it flew in thru an upstairs window of the main house.
- July 23 At about 9:00 am we found only two - an adult ♀ and a young ♂, both banded, clinging together and very torpid at the dark end of the upper attic about 3 ft. down from the ridgepole.



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1947

Corynorhinus rafinesquii

Aug. 3

1.3 mi. SE Cloveress, Marin Co., Calif.

Mr. Golden says that most of the bats were gone within a few days after I was here before (July 16). We caught 2 - 1 ad. ♀, 1 imm. ♂ and saw at least one more out in the lighter part of the attic, but there were no bats in the dark attic.

Aug. 10

1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

In the basement of the old house here I saw 2 *Corynorhinus*, one banded. They were very active and I didn't get either.

Aug. 12

^{Regua,}
mouth of Klamath R., Del Norte Co., Calif.

In an empty house we saw a *Corynorhinus*. The house is above the road just before Regua. There are two dark attics which we couldn't investigate thoroughly without a light.

Sept. 13

mouth of Malpas Cr., 5 mi. S Carmel, Monterey Co., Calif.

At the same house where we have found them several times this summer we got 3 new ♀♀ but no returns. One was hanging in an upstairs closet and two were flying by the time we saw them. All were in very bright looking pelage. This was late afternoon of a very foggy day.

Sept. 24

Lucerne, Clear Lake, Lake Co., Calif.

The only *Corynorhinus* seen were taken at 6:30 when we arrived. These were 2 new ♂♂ in the north cave, 1 return ♂ (46-26578) and

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1947-8

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Corynorhinus rafinesquii

- Sept. 24 Zucerne, Clear Lake, Lake Co., Calif.
one which escaped in the south cave. all had large testes.
- Nov. 14 Dr. Stebbins took the same banded bat (46-26578) at 3:00 pm in the cave which I took Sept. 24.
- Jan. 24 ~~For~~ In the S cave at 5:45 pm we took one ^(same one!) banded ♂ (26⁴⁶⁻578) and banded one new ♂ and 1 new ♀ (♀ kept for Dr. Pearson). all were active when found. In the N cave at 8:15 we took one banded ♂ (26⁴⁶⁻897) and 1 new ♂. See journal.
- Jan. 30 1.3 mi. SE Inverness, Marin Co., Calif.
at Mr. Golden's building where the colony was last summer we could find no bats or fresh sign. He has seen none flying recently.
- Feb. 13 Zucerne, Lake Co., Calif.
We banded 1 new ♂ & 1 ♀. The ♀ looked smaller than average. We also took 3 previously banded individuals. It was of interest that we took *Corynorhinus* throughout the night rather than just evening and morning as has usually happened. All were active except the one at 8:00 am which had its ears curled. This one had been taken the previous ^(5:30 pm - active) evening and also at 2:30 am. (See also journal &

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Corynorhinus rafinesquii

Feb. 13 Lucerne, Lake Co., Calif.

(banding record.) Returns:

5:30 46 - 26308

8:15 26897

11:00 16598

11:30 (26909, 26912)

2:30 (26308)

8:00 (26308)

Feb. 22 3½ mi. N Parkfield, 3000', Monterey Co., Calif.

See journal March 3.

Mar. 5 Lucerne, Lake Co., Calif.

at 5:00pm, N cave we got 1 new ♀ (active) and
1 return ♂ (torpid) - #46-26863. at 5:15,
S cave, we got 1 ♂ return, apparently just
becoming active (became active very quickly
on capture) - #46-26897. at 1:00am, S cave,
we got 1 ♂ return - #46-16669. It died in the
sack after capture from unknown cause.

4 mi. SW Healdsburg, Sonoma Co., Calif.

In an old house, Carl found 3 or 4 *Corynorhinus*
flying about the large dark attic entered by
a trap-door (open) from inside the house. He
caught one - a ♂.

Mar. 5 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.

Carl looked both in the basement and under
the house but found nothing.

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Corynorhinus rafinesquii

- April 9 4 1/2 mi. SE Parkfield, Monterey Co., Calif.
We found one ♀ in a dark closet under the stairway of an abandoned house. I gave the reproductive tract to Pearson.
- April 25 San Juan B., 1500', 3 1/2 mi. E + 2 1/2 mi. N La Panga, San Luis Obispo Co., Calif.
In a sandstone formation here there are many pot holes and ~~over~~ large cracks. In one crack, closed at the top to form a cave, Eben McMillan saw a bat (*Corynorhinus* he thinks) one time and caught one or another time. Carl found one or here today, not torpid at about 5:00 pm (daylight saving).
Testes 6 mm. + 7-mm. epididymis 1 mm. wide - gave to Pearson.
- April 26 3 1/2 mi. N Parkfield, 3000', Monterey Co., Calif. (Patriquin Mine)
Some boys living here said that a week ago they had caught and subsequently released 8 bats with big ears hanging singly in the tunnels of the main shaft. Exploring some of the branches of this shaft during the day and again about an hour before dark, we saw no bats. At the end of one branch we found some droppings, about *Corynorhinus*-size. At dusk we blocked the entrance with a net and heard at least two bats try to fly out. One we caught was a *Myotis volans*. Carl then went back in with a better light than before and found a *Corynorhinus* with its ears partly curled. He didn't know whether or not it had been hanging in that

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Corynorhinus rafinesquii

April 26 3½ mi. N Parkfield, 3000', Monterey Co., Calif. (Patricuin Mine)
spot on our previous visits. It was a ♀ with
a 7-mm. embryo. I gave the reproductive tract
to Dr. Pearson.

May 9 nr. mouth Malpaso Cr., 5 mi. S Carmel, Monterey Co., Calif.
at about 9:00 am I visited the old house just
south of Malpaso Cr. where we banded
4 ad ♀♀, 3 im. ♀♀, & 4 im. ♂♂ July 21, 1947, and
3 ♀♀ Sept. 13. One of the ♂'s was since
found in Monterey (about Oct. 1?), and
apparently another has been found at
Point Lobos, although I have not been
notified of it. At the dark end of the
upper attic I found a cluster of bats.
They were active, and at least 4 escaped.
I saw distinctly a band on one of these.
I caught 1 naked young ♀ and 9 ad. ♀♀.
I banded the young and the 3 unbanded
adults (all pregnant). The other 6 adults
had bands, and all but one were so
irritated by the bands that I removed
them and placed a larger band on the
other wing. I kept two (one pregnant,
one apparently non-breeding) ^{vide Pearson: corpus luteum; cellular debris in uterus?} and gave the
^{as if recent pregnancy} reproductive tracts to Dr. Pearson. 3 of the
banded ones were those banded in September &
therefore I have no record of whether or not
they were young of last year. Two of

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Corynorhinus rafinesquii

May 9

nr. mouth Malpas Cr., 5 mi. S Carmel, Monterey Co., Calif.
(now)

these were pregnant, and one was apparently non-breeding. The other 3 were banded in July, one lactating and two immatures. The former was now pregnant while the two latter were apparently non-breeding.

May 30

1.3 mi. SE Inverness, Marin Co., Calif.

On July 16, 1947 I banded 78 adult ♀♀, 13 ? ♀♀, 28 imm. ♀♀, and 29 imm. ♂♂ at Mr. Golden's barn. He reported that within a few days after my visit the bats were gone. I found 2 bats (banded) here in August and none in January. A few weeks ago I received word that a few bats were back. When we arrived (about noon) today he said that within just the past few days he had noticed that they were back in large numbers (judging from those he saw flying at night and the accumulation of droppings downstairs where the bats roost at night). We blocked off the attic, and caught all the bats inside except for about 6 which went down into the eaves. Adults and young were clinging together in large clusters at the back of the attic, mostly near the ridgepole. Some escaped past our canvas barrier. Most of these

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Corynorhinus rafinesquii

May 30

1.3 mi. SE Inverness, Marin Co., Calif.

settled in a cluster at the far end (the light part) of the upper story of the barn. There were probably 25 or 30 in this cluster. Carl caught $\frac{2}{3}$ or more of these and we stopped trying to catch the few which were left. Adults were flying with well-furred young clinging to them. We took down our barrier to the attic and released the bats as banded in the upper story of the barn, except for immatures not clinging to adults and some of the lactating adults without young on them, which Carl took back into the attic to release. He hung the young all together here. It was about 5:30 when we finished. The total of adults examined was 95, 63 of them banded, distributed as follows (including 12 brought back for examination):

	with furred young clinging	lactating (sep. young = 4 volant, 23 furred, 8 naked)	with naked young clinging	pregnant	non- breeding
1 year old			1	6 (+1?)	
? (doubtful when banded)	1	1		4	
over 1 year old	10	10	10	18 1/2	
unbanded	5	19 (14 banded)	2	5	1

(+1)

M. Koford
1948

Corynorhinus rafinesquii

May 30

1.3 mi. S E Inverness, Marin Co., Calif.

The one-year olds appear to be giving birth later than the older adults. The unbanded adults appear to be giving birth earlier than the banded ones. Barring some possible effect of the banding itself on the time of breeding this year, it appears that the unbanded bats represent a different population which for some reason I did not catch last year, possibly because they were the earliest breeders then also, and had already left the colony. The 65 young were distributed as follows (including 3 which died in sack):

	volant	furred		naked	
		clinging	separate	clinging	separate
♀♀	1	6 (1?)	8 (1?)	6	4
♂♂	3	9	15 (1?)	7 (1?)	4

May 31

(over) Of the 12 adults which I kept in order to give the reproductive tracts to Dr. Pearson for sectioning; 5 were detectably pregnant by feeling externally (3 1 yr.-olds, 1 older, 1 unbanded); 3 were pregnant, detectable externally only by swollen condition of mammae (1 1 yr.-old, 1 older, 1 ? (doubtful when banded)); 1 was known to have aborted (a 1 year-old); 1 may have aborted as it had given birth, did not seem to be lactating, and there was a ^{dead} premature young

see
next
page

all the pregnant ones he sectioned had
vacuolated corpora lutea; the "aborted?" had 2 corpora;
the "non-breeding" ^{as if recently pregnant} had vacuolated corpus luteum, and
debris in uterus; the lactating one he evidently did
not section.

M. Koford
1948*Corynorhinus rafinesquii*

May 31

1.3 mi. SE Inverness, Marin Co., Calif.

5 were detectably pregnant by feeling externally, 3 were detectably pregnant^{externally} only by the swollen condition of the mammae, 1 was known to have aborted, 1 may have aborted (It had given birth, did not seem to be lactating?, and there was a dead premature young in the cage which came either from this bat or one of those released the day before.), 1 was obviously lactating, and 1 was non-breeding (uterus unused, mammae tiny). Of the bats released yesterday, all those diagnosed as pregnant were obviously so by feeling.

		band #	age	breeding cond.
M. Koford	689	unbanded	—	non-br.
"	690	unbanded	—	lact.
"	691	46-26687	1 year old? (age doubtful when banded)	preg. (not obvious)
"	692	26775	over 1 year old	"
P. H. Krutzsch	683	26755, 26653	1 year old	preg. (obvious)
"	684		"	"
"	685	unbanded	—	"
"	686	26774	over 1 year old	"
R. W. Storer	806	26660	1 year old	aborted
"	807	26714	"	aborted? (or lact.)
"	808	26648	"	preg. (obvious)
"	809	26765	"	preg. (not obvious)

see
opposite
page

M. Koford
1948

Corynorhinus rafinesquii

Aug. 10

1.3 mi. SE Inverness, Marin Co., Calif.

We arrived with the Pearsons at Mr. Golden's barn at 10:00 a.m. The bats were in several bunches along the ridge pole at the back (darkest end) of the attic and were quite active. We caught all but perhaps $\frac{1}{2}$ doz. as our method of blocking off the end of the attic was more efficient than last time. A few which got out gathered at the far end of the building as before but we caught most of these. I could only see one out of reach in the eaves. We turned them loose as we recorded the numbers in the light part of the attic, after removing our block from the dark end. The young were still distinguishable from adults by their grayer pelage. Of 29 adults with clinging young banded in May, we got back 10 adults whose young are still present, 7 whose young we didn't get this time, and 2 young whose parents we didn't get this time. Of 29 apparently lactating in May but without young clinging we got back 11. Of 32 separate young in May, we got 10. Of 26 pregnant in May, we got 15. In addition, we got 21 new young, 9 unbanded adults, and 14

M. Koford
1948

Corynorhinus rafinesquii

Aug. 10 1.3 mi. SE Inverness, Marin Co., Calif.

adults banded last year but not taken
(5 of the 14 are one year old.)
in May. The breakdown on the immatures
was:

May 30		Aug. 10	
♂	♀	♂	♀
vol. 3	1	1	1
furred ^{1 died} 24	^{1 died} 15	4	9
naked ^{1 died} 11	10	2	5
returns			
new		10	11
		2 kept	2 kept

The adults were classified, on the basis of size of mammae, as "lactating" (or at least recently so), "lactating?", and "non-lactating" (mammae looking like those of immatures). At the left in the table is listed the condition of the bats last year and at the top their condition in May, this year.

"lactating" "lactating?" "non-lactating"

May 30, 1948				
	lact.	+ young	preg.	not taken
im.			1	11
?			1	11
ad.	1	111	111	111
not taken	111	11	11	111

M. Koford
1948

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Corynorhinus rafinesquii

Aug. 10

1.3 mi. SE Inverness, Marin Co., Calif.

referring to table on previous page:

The "non-lactating" group, except for one which was pregnant in May, may represent non-breeders since they seem to correspond to last year's non-breeders. ^{They are also the late arrivals (since May 30 except one).} They may all be one-year olds, although some one-year olds are breeding this year. The "lactating?" group seem to be ~~the~~ ^{than the} earlier breeders, or those which lost their young. This is suggested by data on adults with known young (+ young May 30). Of the 10 classified as "lactating" the young of 8 are still present. Of the 7 called "lactating?" the young of 2 are still present. The young remaining are not, however, those which were younger in May, slightly more of those banded as "furred" young having remained than those banded as "naked". A piece of evidence tending to offset this speculation is that one bat classified as "lactating" is known to have lost its young in May — at least the baby banded clinging to it died in the sack before we released them.

Pearson kept 5 banded and 8 unbanded bats for studying repr. tracts.

M. Koford
1948

Corynorhinus rafinesquii

Aug. 10

1.3 mi. SE Inverness, Marin Co., Calif.

Two immature ♂♂ had 5 mm. testes. Two immature ♀♀, 4 "lactating" ♀♀, 2 "lact.?" ♀♀, and 3 "non-lact." ♀♀ were indistinguishable on the basis of reproductive tracts. No corpora lutea were present; uteri were small. No sperm are present yet. Especially tiny uteri were noted in one immature and one one-year old "non-lact." not taken May 30. This last had grayish pelage and might have been mistaken for an immature of this year had it not been banded last year. This suggests the possibility of other errors in identification of "immatures".

Added 1950 :

We got back in 1948 13 of 28 possible (46%)
1 year olds, and 57 of 78 (73%) possible
adults from 1947.

In subsequent years we got 2 more of the missing 1 year olds and 3 more of the missing adults at the colony, bringing the probable survival to 64% ~~46%~~ in the first year and 77% in later years.

M. Koford
1948

Corynorhinus

Aug. 12 see below

Aug. 14 4 1/2 mi. SE Parkfield, Monterey Co., Calif.

Carl found 2 ♀♀, one definitely post-lactating, and one doubtful, under the stairs in the old house here.

Aug. 22
over

Aug. 23 1 1/2 mi. S + 2 mi. W of Sabella, 2600', Kern Co., Calif.

Carl found 1 ♂, 100' back in a mine tunnel, torpid at 5:30 pm (daylight saw.)

Aug. 24 1 mi. W of Sabella, 2500', Kern Co., Calif.

Carl caught a ♂ at 2:30 am (just flew in) and a ♀ at 4:30 am (just flew in) in a mine tunnel in which we were sleeping. Each flew into the same side passage, although several *Myotis* caught in the same tunnel during the night were not seen to enter this passage. The ♀ appeared recently lactating.

Aug. 12 Mouth of Carmel Valley, Monterey Co.

We were notified in a letter from L. Williams that a Mrs. Cadigan had found a mummy of a ♀ *Corynorhinus* ^d banded July 21, 1947 as an immature at Malpas Cr. It was in a woodshed near the old ranch house of the lower Hatton Ranch - a large conspicuous house on a rise, the first on the left going up the Carmel Valley road, a few hundred yards from hwy. #1. There are many bats in the attic of this house - see journal. Williams also says Malpas Cr. house is being renovated.

M. Koford
1948

Corynorhinus rafinesquii

Aug. 22 1 mi. S E Inverness, Marin Co., Calif.

The Johnstones next door to Benson found a banded *Corynorhinus* at their greenhouse clinging to a "nursery table" right in the open. It may have been scared out from somewhere else by the sprinkler system which had been going. It had an injured elbow, apparently not caused by the band. When released, it flew and clung to the trunk of a bay tree. It was gone when they looked there again. It was banded as a naked young clinging to its mother on May 30 this year, ^{1.3 mi. S E Inverness} (mother banded July 16, 1947) and was taken again on Aug. 10 although its mother was not taken at this time.

Sept. 30 1 mi. N E Sulphur Bank Mine, 10 mi. S E Lucerne, Lake Co.

We found one in the basement (banded) which escaped. We then went under the house and saw several flying. We saw no torpid ones (this was late afternoon) around under the house, and we chased them back and forth between here and the basement. We caught 2 ♀♀ and 1 ♂ with small testes, all unbanded, and one banded ♂ with large testes in the basement, possibly the one originally seen

M. Koford
1948

Corynorhinus rafinesquii

Sept. 30 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.
there. It was banded last March 9,
and taken again March 29. ^{Dr. Pearson kept the} 3 unbanded ones.
46-812
16

Oct. 1 This morning under the house were two
♂♂, active. One was new and the
other was the banded one of yesterday.
Pearson kept the unbanded one.

Oct. 20 1.3 mi. SE Inverness, Marin Co., Calif.
Last weekend Pearsons got 3 *Corynorhinus*
at Mr. Golden's barn. One was an un-
banded ♂ in breeding condition. Two were
banded ♀♀, one banded Aug. 10, ⁴¹⁻¹⁶⁷⁹²⁹ lact.?,
and one July ⁴⁶⁻²⁶⁶⁷² 16, 1947 as an adult, May 30,
1948 with young, and Aug. 10, lact.. This
time we went first to Inverness, where we
saw a banded *Corynorhinus* in the barn
owned by the grocer at the Rite Price Market.
It flew out the window. We then went
to Mr. Golden's barn and found one
banded *Corynorhinus*, quite active ^(about 5:00 p.m.)
Dr. Pearson kept it - 41-167923, banded
Aug. 10 as apparently an immature - now
has tiny nipples surrounded by bare area.

Oct. 29 Dr. Benson received a letter from a man
living in Petaluma who got a banded
Corynorhinus 1 mi. from Tamales - 46-26733
(1.3 mi. SE Inverness)
- banded July 16, 1947, taken with young May 30,
1948, & Aug. 10, 1948 lactating or recently so.
He has written for further details.

M. Koford
1948

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Corynorhinus rafinesquii

Nov. 5

1.3 mi. SE Inverness, Marin Co., Calif.

at 7:00 pm I saw a banded *Corynorhinus* hanging in the furnace room at the foot of the stairs in Mr. Golden's barn. It did not fly readily but I couldn't reach it with my net and didn't catch it.

Nov. 12

Jackass Hill, 5 mi. W Sonoma, Tuolumne Co., Calif.

At Harold Gray's mine, just before dark, Pearson found an active ♂ at the back of the mine tunnel with water on the floor near the entrance. In another tunnel

after dark we got another ♂ flying.

Nov. 13

Godwin Dam, 4 mi. NE Calaveras Co.
~~near~~ Knights Ferry, at a dam just

up the river, Pearsons caught a ♂, active, at about 5:00 pm, in the back of a gravel tunnel in which the air seemed very bad.

Nov. 23

Lucerne, Clear Lake, Lake Co., Calif.

Dr. Benson found 1 unbanded ♀ at 4:00 pm in the south cave just at the cave-in. It was torpid enough to be caught by hand, but woke up quickly. The next morning

Nov. 24

he found 1 unbanded ♂ in the north tunnel (not there up to 11:30 the night before).

St. Helena Cr., 2.7 mi. (by highway) N of Lake-Napa Co. line,

Lake Co. Carl found a ♀ hanging from a loose piece of wallpaper in a closet of an abandoned house.

M. Koford
1948

Corynorhinus rafinesquii

- Dec. 11 mouth of Malpas Cr., 5 mi. S Carmel, Monterey Co., Calif.
In the side attic were two ♀♀ at opposite ends of the attic. In the upper attic was a ♂ and a banded ♀ (46-26780 banded as lactating adult July 21, 1947 and retaken July 23), also at opposite ends. Both this ♀ and the ♂ were moist in the genital region. This was a little after noon. All were torpid, and all were clinging by feet and thumbs to the sloping ceiling, rather than to the sides of the rafters as they have been when I have found them here before. I kept all four for Pearson.
- Dec. 14 Inverness, Marin Co., Calif.
at the big red barn visited first on Oct. 20 we found one torpid ♂ just at dusk hanging on the vertical surface of a rafter at the ridgepole. Pearson kept it.
1.3 mi. SE Inverness at Mr. Golden's barn there was one torpid *Corynorhinus* out of reach down in the eave. It was there before dark, at 8:00 pm, 10:00, 12:00, 3:00 am, and in the morning, apparently not having moved at all. The temperature inside at 10:00 pm was 44°, outside 42°. At about 6:00^{am} it was 35° inside, 28° out.

M. Koford
1948-9

Corynorhinus rafinesquii

- Dec. 21 3 1/2 mi. N Parkfield, 3000', Monterey Co., Calif. (Patriguin Mine)
 Carl found one torpid ♀ in the main tunnel at about noon, about 200' from the entrance. ^{very fat} & killed it immediately & saved s.t. for Pearson. We didn't look in any of the other tunnels.
- Dec. 24 Mouth of Malpas Cr., 5 mi. S Carmel, Monterey Co.
 We couldn't find any bats in the old house.
- Jan. 14 300 yd. SE Lee Cave, 4300', Old Station, Shasta Co.
 We banded ~~177~~ ¹⁷⁷ (127♂♂, 50♀♀) *Corynorhinus* in this cave. ~~The temperature at one point was -5°C. but we did not take it at the ceiling where the bats were hanging. At another point it was -4°C. at the floor and -2°C. at the ceiling where the bats were. At another point, it was -1°C. at the ceiling and 0°C. in the center of a cluster of about 30 bats.~~

clusters:

28♂♂, 13♀♀ (6 large nipples, 1 medium, 1 small 5 tiny)

26♂♂, 5♀♀ (2 large nipples, 1 med., 2 tiny)

9♂♂, 2♀♀ (1 large, 1 small)

5♂♂, 3♀♀ (1 med., 1 tiny, 1?)

7♂♂

5♂♂

3♂♂, 2♀♀ (1 med., 1 tiny)

4♂♂

3♂♂, 1♀ (tiny nipples)

M Koford
1949

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Corynorhinus rafinesquii

Jan. 14 300 yd. SE Ice Cave, 4300', Old Station, Shasta Co., Calif.

clusters (continued) :

1♂, 3♀♀ (1 with large nipples, 1 with med., 1 tiny)

2♂♂, 2♀♀ (1 large, 1 tiny)

2♂♂, 1♀ (large)

2♂♂, 1♀ (large)

1♂, 2♀♀ (1 large, 1 med.)

3♀♀ (2 large, 1 tiny)

1♂, 1♀ (large)

1♂, 1♀ (large)

1♂, 1♀ (med.)

2♂♂

1♂, 2♀♀ (both small)

singles :

23 ♂♂

6 ♀♀ (4 large, 1 small, 1 tiny)

We tried to hang them back in the same groups in which we found them, but did not succeed entirely since the bats were so torpid that it was hard to make them hang on at all. When we arrived many had their ears uncurred although not at all active. The cave ceiling is high near the entrance and becomes lower as you go back. All the bats were back where the ceiling was head-height or lower.

M. Koford
1949*Corynorhinus rafinesquii*Jan. 15th
-15Subway Cave, 4300', Old Station, Shasta Co., Calif.

In the farthest left ^{existing} branch of the north end, temp. $0^{\circ}\text{C}.$, we located 7 bats, all hanging singly, and marked their positions. At 9:00 pm there were two additional bats, either new or missed before. At 9:15 as I walked past this branch of the cave a bat flew by me. At 9:45 all the marked bats, including the two new at 9:00, were still in place and we saw none flying. In the morning one of those marked first was missing and one of those new at 9:00 was missing; the rest were in place. In addition there were three in new positions. We caught these bats which proved to be all ♂♂ but one (one of those which didn't move). We banded the 9 ♂♂ and kept them until they were active enough to fly, then released them at the cave entrance. They hung up quickly, mostly within sight of the point of release. We kept the ♀.

In the south end of the cave (back to Jan. 14), in the main tunnel, we marked the positions of one group of 4, one pair, and 2 or 3 singles. At 10:00 pm the marked ones were still present, there was one single in a new position, ^{looking active,} and a new pair close to one of



M. Koford
1949

Corynorhinus rafinesquii

Jan. 14
-15

Subway Cave, 4300', Old Station, Shasta Co., Calif.

the previously marked individuals. The top member of the pair was active. We went out to get a net and on the way out saw another active bat in a new position.

When we returned, this last was gone.

We tried to catch the pair but the active member escaped. We hung the torpid

member, a ♀, on the wall. On the way out we saw ~~another~~ active bat which

again escaped. In the morning the group of 4 was still in place. It looked like

two pairs hanging close together. The pair marked yesterday was still there. One single one was unmoved. At least one (or 2?)

marked the day before were gone. The one new at 10:00 pm was gone. The ♀ which we hung on the wall was gone. We collected

~~and banded~~ the group of 4 (2♂♂, 2♀♀), the pair (♂, ♀), and the single (a ♂).

I banded the 4♂♂; Pearson kept the 2♀♀ ^(about 12' high where the bats were)

The temperature at the ceiling in this tunnel was -2°C . The tunnel is open at both ends.

Back to Jan. 14: In a side chamber off to the left of this main tunnel was the greatest concentration of bats. Some were within reach on walls or low part of ceiling; others were out of reach ^(up to about 10' high). Some had

M. T. Ford
1949

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Corynorhinus rafinesquii

Jan. 14-15 Subway Cave, 4300', Old Station, Shasta Co., Calif.
one or both ears uncurled. We marked the positions of all of them: a group of about 18, a group of 6, a group of 5, 2 pairs, 22 singles. We didn't enter this chamber during the night. In the morning; the group of 18 had changed to 13 (9♂♂, 4♀♀); the group of 6 had become 14 (9♂♂, 5♀♀); the group of 5 had one left; one pair was gone; one pair had become 3 (1♂, 2♀♀); 17 (14♂♂, 3♀♀) of the singles were in place; 5 singles were gone; there was one new pair - not clinging to each other (2♂♂); there were 5 singles (4♂♂, 1♀) in new positions. Pearson kept some of the ♀♀ and I banded the rest (³⁷4♂♂, 10♀♀ - 5 with large nipples, 2 medium, 1 small, 2 tiny). We hung the banded bats, still torpid, including the 4♂♂ from the outer tunnel, on the wall of this chamber. The temperature here was 1°C. The most extensive part of the cave is the right branch of the north end. We found no bats here. Well back in this branch the temperature was 9°C.

Jan. 15 Pit River, 3000', 11½ mi. NE Burney, Shasta Co., Calif.
(Power Station) In a tunnel in a chalk formation we collected 2♂♂, hanging singly.



1. Koford
1949

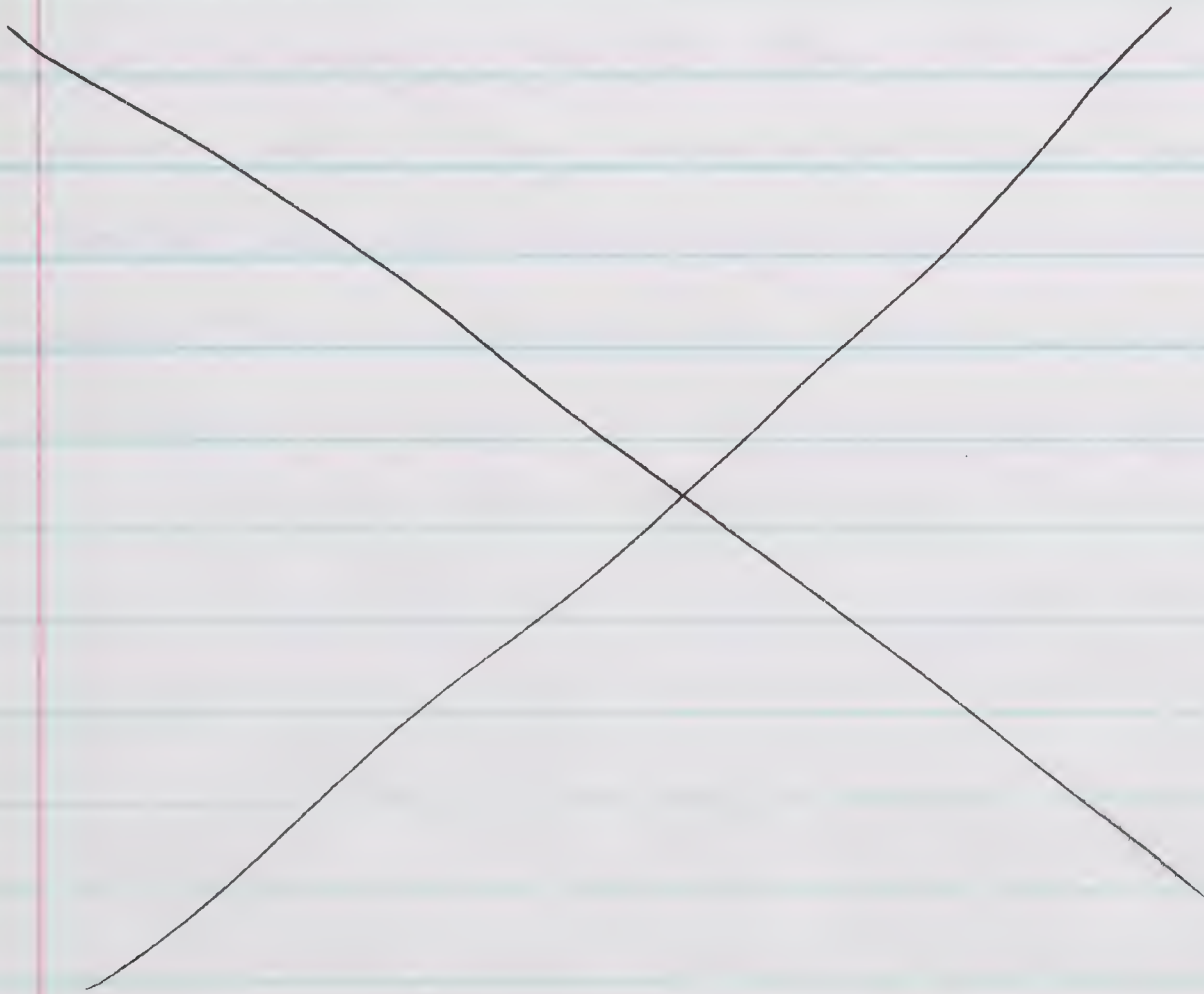
50a

Corynorhinus rafinesquii

Jan. 27

1.3 mi. SE Inverness, Marin Co., Calif.

There was one *Corynorhinus* in Mr. Goldner's barn in the exact spot (I think) where the one was on Dec. 14. This time we got it out. It was a ♀ (band # 42-138171), banded May 30 with young and retaken Aug. 10. Dr. Pearson ~~kept~~ killed it and saved specimen and reproductive tract.





A. Koford
1949

Corynorhinus rafinesquii

Feb. 2 Six-mile Hill, 6 mi. E Cassel, Shasta Co.

In a lava tube entered through a vertical hole about 3' in diameter, we found 1 ♂. It was on the wall in the horizontal part of the cave near the place where the vertical shaft comes down.

300 yd. SE of Cave, 4300', Old Station, Shasta Co., Calif.

The temperature this time in this cave was 35°F where we got the first bat (nearest the entrance). Of 127 ♂♂ banded last time we got back 97. Of 50 ♀♀ we recovered 36. There seemed to be no tendency for the bats to be grouped in the same way they were last time as far as individuals were concerned, but the total effect was about the same, except that they seemed to be a little farther back in the cave than last time. Many of those in bunches had their ears unfurled, but no single ones did. In addition to the banded ones there were 14 ♂♂ + 1 ♀ new. We kept 3 ♂♂ & the ♀, and banded the rest. There was also 1 ♂ banded last time at Subway Cave. This could have been an error in reading the number (merely by substitution of 3 for 8), especially since we later recorded this number at Subway. However, it may have been the same bat since Dr. Benson did see a bat fly out of the cave while the rest of us were still inside.



1. Koford
1949

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Corynorhinus rafinesquii

Feb. 2 - 3 Subway Cave, 4300', Old Station, Shasta Co., Calif.

We arrived here shortly after dark. In the north arm of the cave, there were 20 or more bats in the farthest left branch (the same place where they were last time). Two at the very end, hanging singly, were active. We caught one of these, a ♂, banded last time in the south arm, but the other, also banded, escaped. We left the reading of numbers for morning, but collected any unbanded ones (2 ♂♂, 1 ♀).
not found again in the morning
In the next branch to the right there was a lone bat on the wall which we disturbed to read its number (a ♂, banded last time in the south arm). In the morning we found this one in the left branch with the others. We then went to the south arm. There were no bats in the main tunnel where we found some last time, but there were 30+ in the same side chamber where they were before, mostly banded. There was one dead banded ♀ with a broken wing clinging to the wall. In the morning we read the numbers and took the cave temperatures. We also weighed the bats in the south arm. The temperature was 38°F in the north arm, and 39°F in the south arm, near the ceiling where the bats were. Of 9 ♂♂ banded last time in the north arm, all were present, but all had moved to the south arm.



Koford
1949*Corynorhinus rafinesquii*

Feb. 3

Subway Cave, 4300', Old Station, Shasta Co., Calif.

Of 41♂♂ and 10♀♀ banded last time in the south arm, 15 (11♂♂, 4♀♀) were in the north arm, and ²⁹~~28~~ (²³~~22~~♂♂, 6♀♀) were in the south arm. Also present in the south arm was one ♀ banded last time at the cave 300 yd. SE Ice Cave. It was not recorded there yesterday. This is probably not an error since two digits would have to be misread to make it into a Subway Cave number.

The grouping this time in the south arm chamber was 15 singles (1♀), 4 pairs (3 of ♂♂, 1 of ♀♀), 1 group of 3 (♂♂), 1 group of 4 (2♂♂, 2♀♀), 1 group of 8 (7♂♂, 1♀).

Lava Beds National Monument, Siskiyou Co., Calif.

In the evening we looked into Mushpot Cave and Indian Well Cave and found no bats. In Labyrinth Cave we got (♂♂, ♀♀).

One ♂ although hanging singly had its ears unfurled and was still apparently torpid. In the morning we looked into the caves on the two-mile loop road. Bob and I found 4 (2♂♂, 2♀♀), all hanging singly, in Hercules Leg Cave. Benson & Pearson got 10♀♀, 4♂♂ in Thunderbolt and Labyrinth (they run together), and 2♀♀, 7♂♂ in Sentinel. I banded 2♂♂ from Hercules Leg and released them at moon in Mushpot.

M. H. Ford
1949

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Corynorhinus rafinesquii

March 11

Aetna Springs, Napa Co., Calif.

In the kitchen attic where we got *Corynorhinus* in Nov. & Dec., 1946, were two torpid ♀♀, hanging singly from the shingles of the roof between rafters. Temperature 50°F.

1900', 5½ mi. W & 1 mi. N Lower Lake, Lake Co., Calif.

at the old house under which we got 1 ♂ Nov. 30, 1946, was 1 ♀, also under the house not far above the ground. 44°F.

March 19

1 mi. NE Sulphur Bank Mine, Lake Co.

In the basement we got 3 ♀♀, one of them banded, hanging singly and torpid. Band #46-16635 - banded in basement Nov. 29, 1946 & retaken in basement March 8, 1947. Temperature in basement at noon 55°F.

Lucerne, Lake Co.

In the tunnels (daytime) we found no *Corynorhinus*.
Abbott Mine, 1900', 24 mi. E Lakeport, Lake Co.

In the same tunnel where we got 1 ♂ Sept. 23, 1945, we got a torpid ♂ & ♀ 6" apart where the temperature was 58°. Farther in, temp. 62°, we got an active ♀, flying when first seen.

~~On the~~ 2¼ mi. SSE Willer Springs, 1800', Colusa Co.

In the old house where we got 2 (♂, ♀) *Corynorhinus* and 3 *M. californicus*, all flying, Sept. 23, 1945, and 4 (1 ♂, 3 ♀♀) torpid under the house Dec. 1, 1946, Pearson found 1 ♀ torpid under the house.



Corynorhinus rafinesquii

March 31 4 mi. SW Gealdsburg, Sonoma Co., Calif.

In the attic of the old house where Carl saw several *Corynorhinus* flying in March last year, was one ♂.

1.3 mi. SE Inverness, Marin Co.

When the Pearsons arrived at Mr. Golden's barn just before dark there were several active *Corynorhinus* in the attic. They caught and kept 4 during the evening - all banded 4⁶/₂-26670, 4⁶/₂-26772, 46-26715, 46-26758. In the morning they caught and released 7 (about half of those present) 46-26736, 46-26673, 46-26720, 42-138199, 42-138164, 41-167919, 41-167938.

April 2 Subway Cave, 4300', Old Station, Shasta Co.

In the south arm were 17 ♂♂, 5 ♀♀, mostly in the chamber, but some out in the main tunnel. All were single except one pair (♂♂) and one group of 4. The temperature was 50°. ~~16 were originally banded here (Jan. 15); 5 were banded in the north arm; 1 banded at ~~the~~ the cave 300 yd. SE Ice Cave. 14 of them were ^{re-}taken here (S arm) last time (Feb. 2). Of the 8 not taken last time~~

1 was banded Jan. 14 at the cave 300 yd. SE Ice Cave and taken Feb. 2 in the south arm of Subway; 5 were banded Jan. 15 in the north arm of Subway and taken Feb. 2 in the south arm; 8 were



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Corynorhinus rafinesquii

April 2

Subway Cave, 4300', Old Station, Shasta Co., Calif.

banded Jan. 15 in the south arm of Subway and taken here again Feb. 2; 5 were banded Jan. 15 in the south arm and taken Feb. 2 in the north arm; 3 were banded Jan. 15 in the south arm and not taken Feb. 2.

The 14 taken here last time were weighed last time and this time.

wt. loss

.3 gm.	1
.4	1
.5	111
.6	11
.7	11
.8	1111
1.3	1

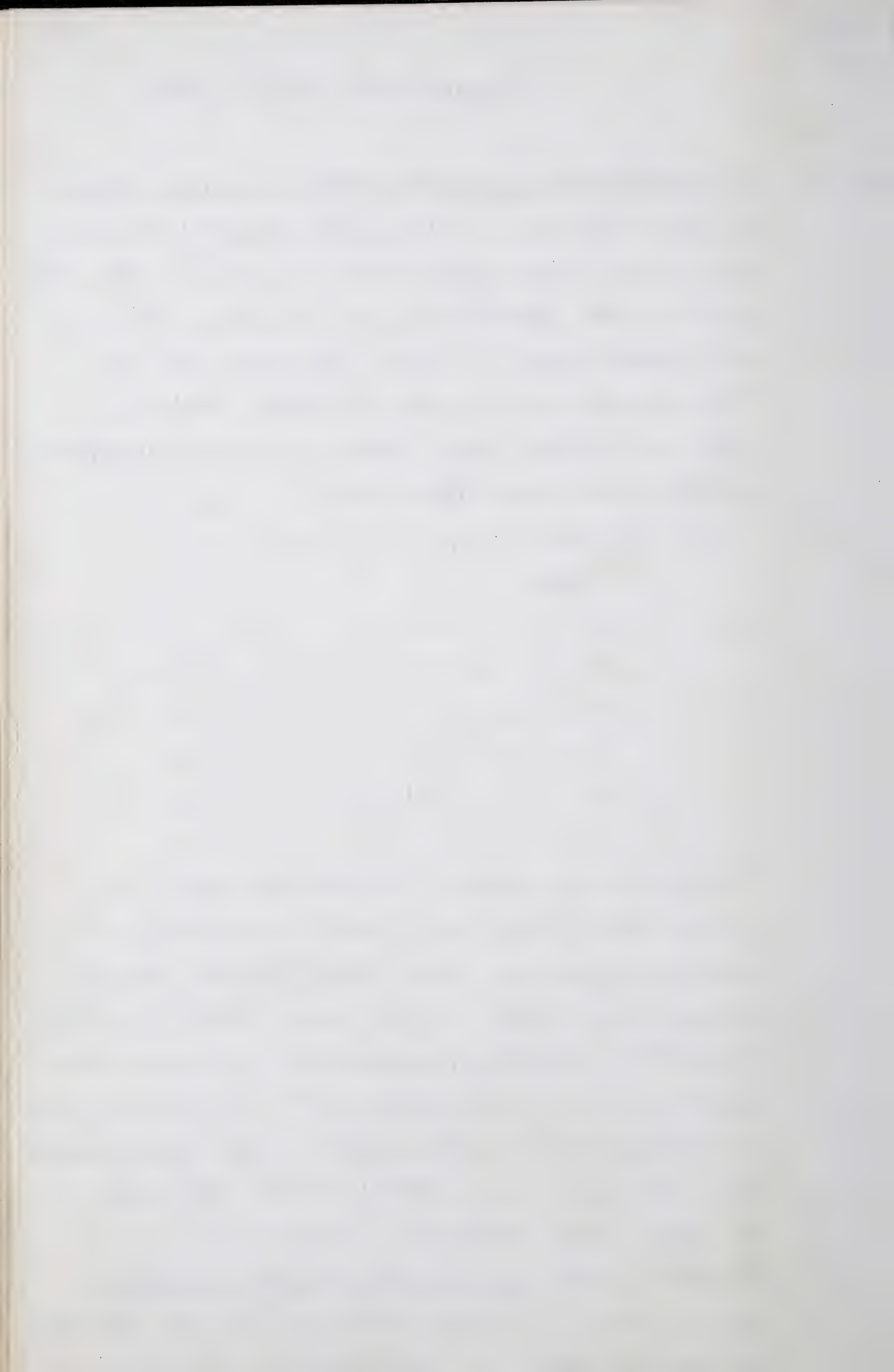
There were no bats in the north arm. The place where they were before was very wet.

300 yd. SE Ice Cave, 4300', Old Station, Shasta Co.

There were 9 ♂♂ + 10 ♀♀ and 2 or 3 out of reach, farther toward the entrance than last time. Temperature 48°. Single except one group of 2 and one of 3. All were banded Jan. 14 except 2 unbanded ♂♂. All but 4 of these were retaken Feb. 2.

Pit River, 3000', 11½ mi. NE Burney, Shasta Co.

In the same tunnel where we got the 2 torpid ♂♂ Jan. 15, were 2 *Corynorhinus*, active, just



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Corynorhinus rafinesquii

April 2 Pit River, 3000', 11½ mi. NE Burney, Shasta Co., Calif.
before dark. They were hanging close together at the end (at least as far back as a person could go). They flew at our approach. We caught one (a ♀) in a net but the other flew back through the small opening at the end. This may be a cave-in and the tunnel may continue some distance. We searched the tunnel again 2 hours after dark and again in the morning but saw no bats. The temperature where we first saw the bats was 57°.

April 10 7 mi. S Vidal (San Bernardino Co), Riverside Mts, Riverside Co.
In the tunnel in which we found only Macroscelus in February, 1947, the Macroscelus were still there, but also ~~so~~ Corynorhinus. Two UCLA boys whom we met there said the Corynorhinus were in the lowest level of the mine. However, when Carl went in just at dusk, there was a group of about 30 active Corynorhinus in a pocket in the ceiling nearer the entrance than the chimney in which the Macroscelus were. He did not go down to any other levels. There were also a few active Corynorhinus in the tunnel across the creek. The next morning we searched all the levels and found no Corynorhinus — only Macroscelus. The Corynorhinus Carl caught were 22 ♀♀. 19 were pregnant with

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Corynorhinus rafinesquii

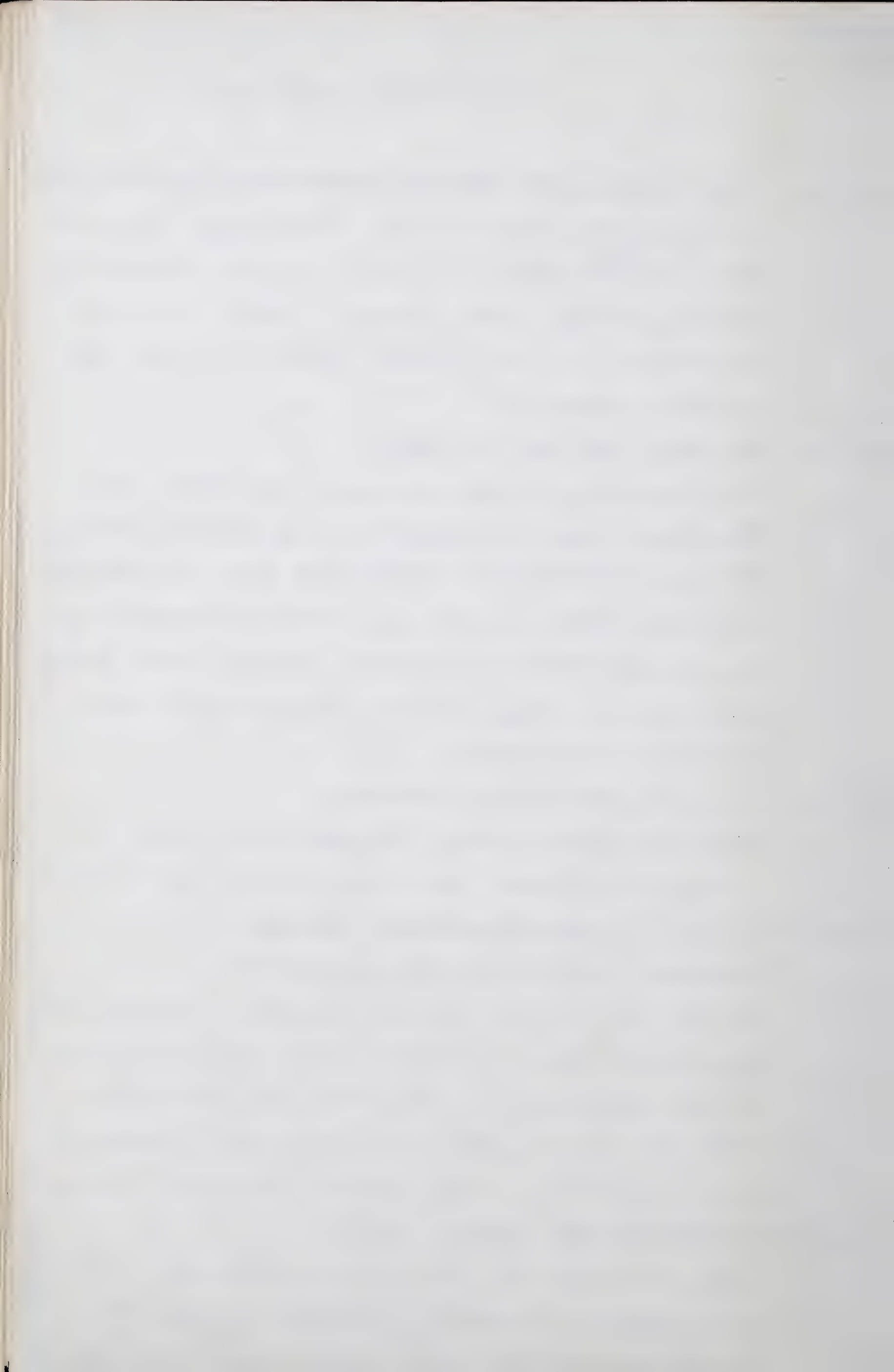
April 10 7 mi. S Tidal (San Bernardino Co.), Riverside mts Riverside Co., Calif.
embryos from 8 to 14 mm. (^{or died} killed Apr. 10, 11, & 12).
One (~~killed~~ ^{died} April 12) had a 4-mm., abnormal-looking bulge in the uterus. Two (one which died April 11, one killed April 12) were not visibly pregnant.

April 14 Ramona, San Diego Co., Calif.
We tried to get into the tocon hall attic where Krutzsch had located a *Corynorhinus* colony. We were told that the bats had been sealed out and the attic closed up so that we couldn't get in. In the attic of a house several doors away we saw one *Corynorhinus* flying but were unable to catch it.

April 13 1.3 mi. SE Inverness, Marin Co.
Pearson kept 3 more banded bats from Mr. Golden's barn 46-26720, 41-167934, 41-167936.

April 14 1 mi. NE Sulphur Bank Mine, Lake Co.
Pearson kept 4 more banded bats:
46-16726, 16727, 16728, 16637. 3 of these were banded March 8, 1947 along with 4 other ♀♀ in the basement. The other was banded Nov. 29, 1946 with 2 other ♀♀ in the basement and retaken Mar. 30, 1947 under the house.

April 28 Aetna Springs, Napa Co., Calif.
When we entered the kitchen attic at 11:00 am the bats were mostly clustered near the entrance. They were active and we didn't.



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Corynorhinus rafinesquii

April 28

Aetna Springs, Napa Co., Calif.

catch quite all of them. All were ♀♀, nearly all pregnant-looking. We kept 16, and banded 32, which we released inside the attic.

May 1

Caspar, Mendocino Co.

a ♀ (# 46-16966) banded May 2, 1947 at Albion was found about May 1 in the attic of an abandoned slaughter house at Caspar. It was brought to Mrs. Etta Leonard of Fort Bragg who sent us the information. The band was so embedded that she just read the number and released the bat at night. Her address is Box 554, Fort Bragg.

May 12

Lucerne, Clear Lake, Lake Co.

There was one active ♂ in the north tunnel at 5:30 pm, which I kept for Pearson.

May 15

1.3 mi. SE Inverness, Marin Co.

Benson went to Mr. Golden's barn at 7:00 pm just before dark and saw about 10 *Corynorhinus*, 8 of them banded. They were in the dark end of the attic when first seen, but flew out and hung in the light part. We caught 4, which looked to him as if they could be pregnant, but not extremely bulgy — stomachs would of course be empty at this time of day.



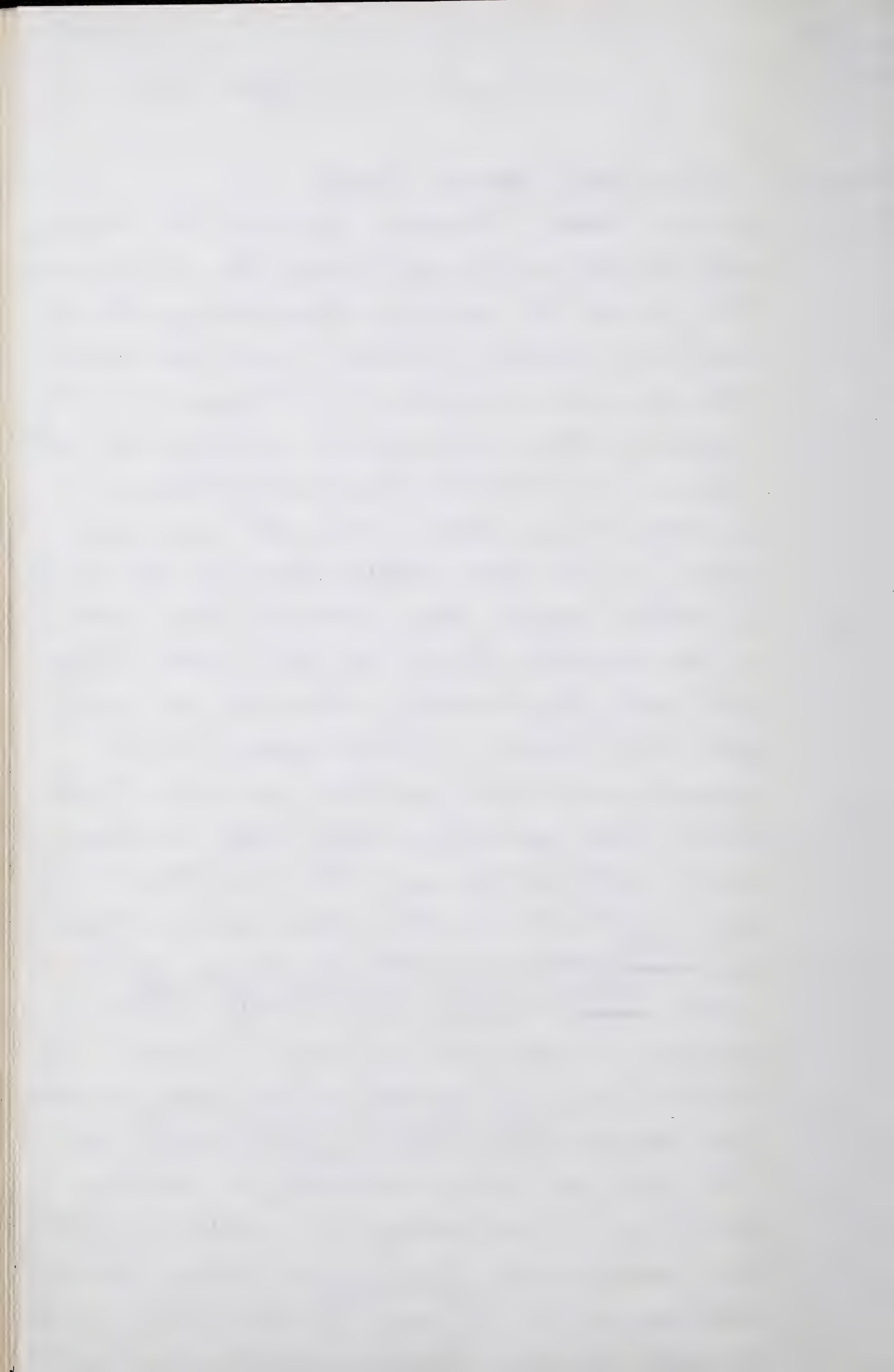
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Corynorhinus rafinesquii

May 29 Aetna Mine, Napa Co., Calif.

I went ~~with~~ Pearson, first to the kitchen attic at Aetna Springs, and then to the mine. We found the kitchen attic noisy with the sound of cooking below, and no bats. At the mine, we found one torpid ♂ in the tunnel which the miners showed us last time. A little to the east of this is another tunnel, and in this one was the colony of ♀♀ from Aetna Springs. The tunnel is about 100 ft. long and the bats were in one cluster almost at the back. They did not fly readily when the net was put over them (about noon) and many had to be pulled from the cluster. Some flew quickly and two escaped and left the tunnel. We recovered 29 of the 32 adults banded last time. Nipple size ~~had been~~ ^{was} recorded last time. Of 22 which ~~had~~ ^{have} (17 with young clinging, 5 lactating) already given birth, 18 had medium nipples, 2 had large, & 2 small. Of 6 still pregnant, 2 had medium nipples, & 4 small. One which is ^(not pregnant or lactating) non-breeding had small nipple. We also got 16 new adults, 12 with young clinging, 1 lactating, & 3 still pregnant. The young range from naked to fuzzy-covered, weighing 2.2 to 4.8 gm. ^(see next page) Sex ratio 18 ♀♀, 16 ♂♂. We kept the non-breeding adult, 2 unbanded.



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Corynorhinus rafinesquii

May 29 Aetna mine, Napa Co., Calif.

pregnant ones, one unbanded with young (σ 4.6 gm.), the young of one banded ϕ (ϕ 2.2 gm.), one lone young (ϕ 2.6 gm.) with the placenta still attached, and one lone young σ 3.2 gm.

Weights of young:

<u>$\phi\phi$</u>	<u>$\sigma\sigma$</u>
2.2 gm.	3.1 gm.
2.5	3.2
2.6	3.2
2.7	3.7
2.7	3.8
2.8	4.0
2.9	4.1
3.5	4.4
4.1	4.6
4.8	

May 31
~~June 2~~

1.3 mi. SE
Inverness, Marin Co.

Benson went into ^{Golden's} ~~the~~ barn at 7 am. There were at least 6 bats - all adults he saw, were banded. They were very active and flew by the time he got to them. They left one hairless young clinging to the roof. He saw 2 other $\phi\phi$ carrying young in flight.

June 2

He found no bats at Golden's barn, and so went to the red barn in Inverness.



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Corynorhinus rafinesquii

June 2

Inverness, Marin Co., Calif.

We arrived at 7:00 pm. It was a very warm day for Inverness. The bats were in 4 or 5 clusters at the east end of the barn and flew readily. Carl climbed up and caught some before they flew. They formed another cluster at the west end and when he climbed up there they did not fly nearly so readily and he caught more of them. He caught a few more scattered ones after this and when we stopped trying to catch them there were still about 20 flying about in the barn, some carrying young, and some had flown outside. Of the adults caught, 2 were non-breeding (one unbanded & one a 1-year old), 25 were pregnant (3 unbanded, 4 1-yr. olds, 18 over 1 yr. — one of the 1-yr. olds had a smaller bulge than any of the others), and 13 had given birth (3 unbanded, 1 1-yr. old, 9 over 1 yr.) — 7 of these had clinging young, 6 were lactating. The young were 7 ♀♀, 7 ♂♂ (for weights, etc., see next page). When we left the barn at 10:00 pm, after releasing the adults as we checked their numbers, we hung the lone young back on the ceiling. In the morning there were 1



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Corynorhinus rafinesquii

June 2 Inverness, Marin Co., Calif.

no bats left here, but back at Golden's barn 1.3 mi. SE Inverness, there were what appeared to be about 60 bats which we did not disturb except to see that they were there.

Lagunitas, Marin Co.

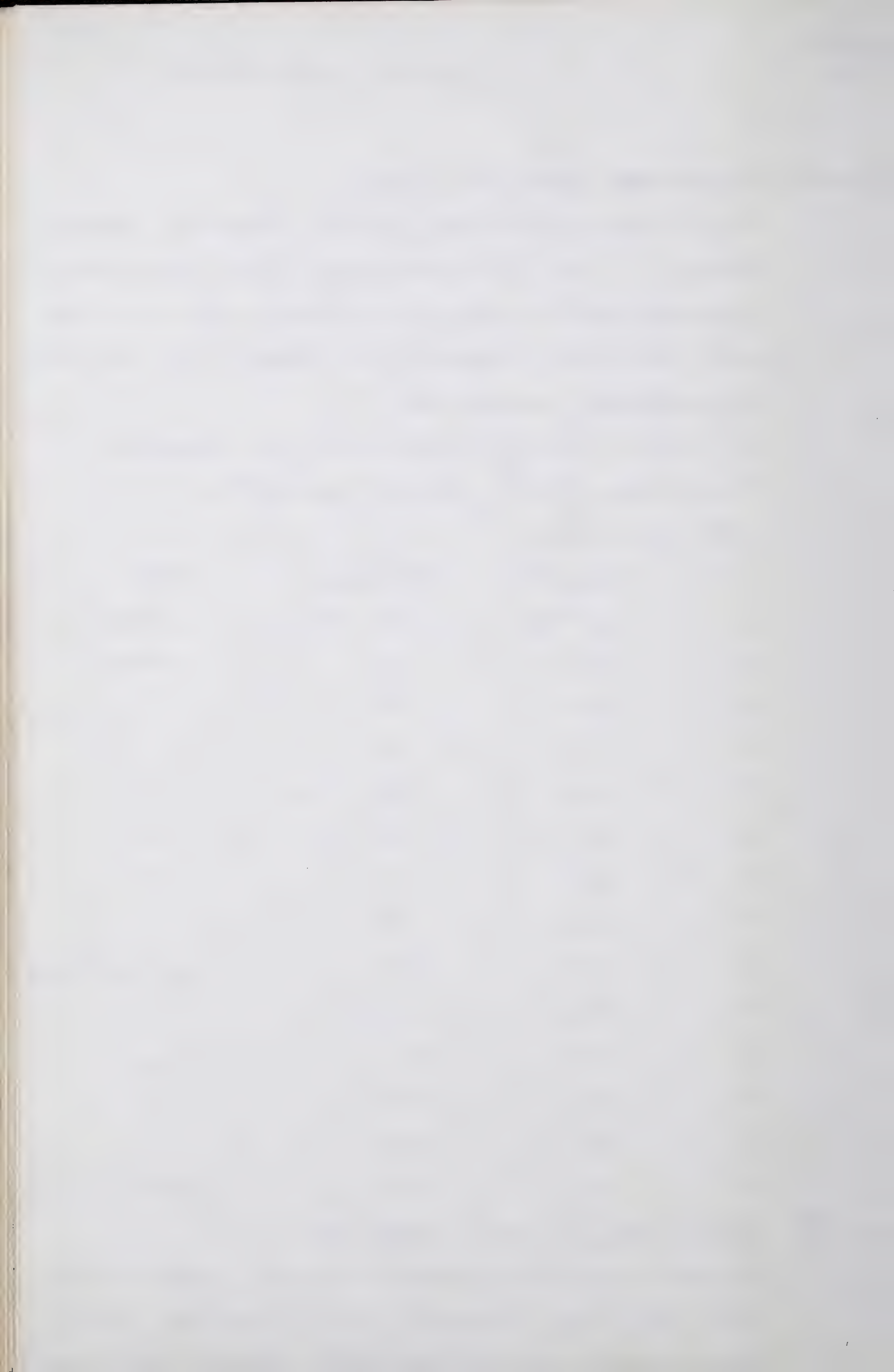
I took a brief look under the Mariposa Pavillion but found no bats.

young :

	<u>weight</u>	<u>forearm</u>	<u>hair</u>
♂	2.5 gm.	17 mm.	naked
♂	2.5	17	naked
♀	2.6	19	"
♂	2.7	18	"
♀	2.7	18	"
♀	2.7	19	"
♀	2.9	20	"
♂	3.0	19	"
♂	3.1	19	very slight fuzz
♂	3.2	19	"
♀	3.9	23	fuzz
♀	3.9	25	"
♀	4.5	26	"
♂	5.0	27	fur (could be blown)

June 4 Aetna Mine, 1100', Napa Co.

We arrived at about 7:00 pm and looked into the two tunnels we looked at last time but found no bats. Up the hill (north)



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Corynorhinus rafinesquii

June 4 Aetna Mine, 1100', Napa Co., Calif.

from these, Payne found 2 more mines, one a cavern with no tunnels, the other a tunnel. In the tunnel were our bats, again in a cluster less than 100' from the entrance, although this time the tunnel continued beyond this point. We did not disturb them further. On down the road about a mile he found another tunnel where he got a *Myotis evotis*. At ~~10:00~~ 9:30, we looked into all the tunnels again. In the first (west) a *Myotis (evotis?)* escaped us. In the second (east) we got a *Myotis yumanensis*. In the one up the hill (north) there was still a cluster of adults in the same place and one young could be seen hanging separately to one side of the group. In the one down the road we saw none. At 11:00 we got a lactating ♀ Cory alone in the west tunnel, a *Myotis evotis* in the east, and looked again at the cluster in the north tunnel. It looked the same but no young were evident. In the morning we returned and caught the bats in the cluster. Most of them had to be pulled loose and we didn't see any escape. After we had them all we saw one flying. We chased it back to



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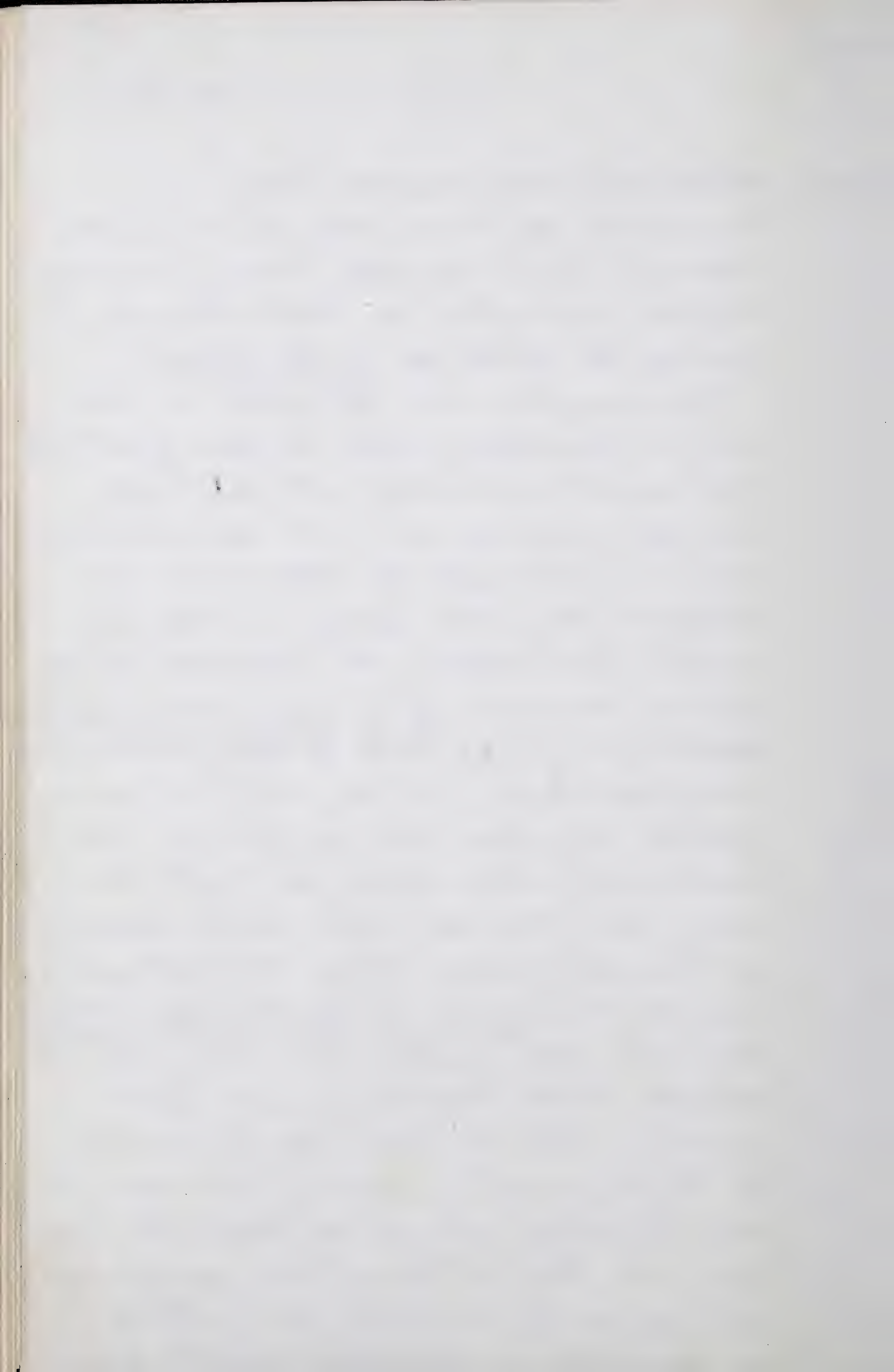
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Corynorhinus rafinesquii

June 5 Aetna Mine, 1100', Napa Co., Calif.

the end of the tunnel where it hung for a moment, then escaped, leaving a young behind, and flew on back through an opening too small for us to follow.

Those caught were ^{37 (1 caught later)} ~~38~~ adult ♀♀, all but 2 banded, and 38 young (21 ♀♀, 17 ♂♂). One adult was pregnant, ~~21~~ had clinging young, and 15 were lactating but without young attached. Included in this last group was the one caught last night. All but one of the young banded last time were still present. Of 13 ^{with adults both this time and last,} ~~whose mother was known from last time,~~ 12 were with the same adult. The one mix-up was in two consecutive numbers so that there may have been an error in recording or banding last time. The odd young was present, alone, and the odd adult was not taken. ^{Two of the three adults missing last time were still missing.} All but 6 of the adults taken last time were still present. One of these was the mother of the one missing young, one was the adult whose young we kept last time, one was the mother of the young which was presumably with the wrong adult, the young of one was present, ^(alone) and the young



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Corynorhinus rafinesquii

June 5

Aetna Mine, 1100', Napa Co., Calif.

of the other two are not known.

Young: X = new this time

	<u>sex</u>	<u>forearm</u>	<u>weight</u>	<u>fur</u>
X	♀	16 mm.		naked
X	♂	17		"
X	♂	18		"
X	♂	20	3.1 gm.	fuzz
X	♀	22		slight fuzz
X	♀	24		"
X	♀	24	4.2	fuzz
	♂	26		fuzz
	♀	27		thick fuzz
	♀	27	4.4	
	♀		4.5	fur
	♂	27	4.7	fur
	♀	27	4.9	fur
	♂	28		fur
	♀	28	4.8	fur
	♀	29		short fur
	♀	29		"
	♀	29		fuzz
	♀	29		fur
	♂	29		fur
	♂	30		fur
	♂	30	4.9	fur
	♀	30		fur
	♀	30	5.0	fur
X	♀	31		short fur



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Corynorhinus rafinesquii

June 5 Aetna Mine, 1100', Napa Co., Calif.

♂	31 mm.		fur
♂	31		fur
♂	32		fur
♂	32	5.9 gm.	fur
♀	32		fur
♂	33	5.5	fur
♂	33	6.0	"
♀	34	5.7	"
♂	34	5.9	"
♂	34	6.0	
♀	35	6.6	"

Weight gains of young weighed last time :

<u>♂♂</u> May 29 - June 5		<u>♀♀</u> May 29 - June 5	
3.1	4.9	2.5	4.5
3.2	4.7	2.7	4.9
3.7	5.9	2.8	4.4
3.8	5.9	2.9	4.8
4.0	6.0	3.5	5.0
4.1	5.5	4.1	5.7
4.4	6.0	4.8	6.6

We released the bats as we read the numbers just inside the tunnel mouth. The young which were separated from their mothers we hung on the walls or put on the floor. While we sat there, at least 5 adults came and picked up young, and other adults kept flying around near the young.

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Corynorhinus rafinesquii

June 5

Aetna Mine, 1100', Napa Co., Calif.

The squeaking of the young seemed to increase when there was an adult flying near. ~~An~~ ^{an} adult often flew down very close to several different young, sometimes even lit beside several different ones. The ones we saw actually take young usually lit and flew again several times before flying off with the young hanging on. They picked them up from both walls and floor. When there were 10 young left there seemed to be a lull in activity of adults, so I took the young back into the tunnel to near where a cluster had formed (close to the spot where the original cluster was) and hung them in a group on the wall. Soon an adult began flying about. It lit several times on the group of young and each time I made a slight move with the net getting ready to catch it if it picked up one, frightening it off. Finally I decided to let it get one without trying to catch it. It lit on the young ones and moved around over them. Then I could see it hold itself out from the wall as though to let a young take hold. I put the net over the group and this time it did not fly until the net touched the wall, when it flew into

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Corynorhinus rafinesquii

June 5 Aetna Mine, 1100', Napa Co., Calif.

the net with a young clinging to it. This adult was one which we had not caught previously today, so more than we thought may have escaped into the back of the tunnel when we were catching them. It had been banded last time with its young clinging to it, and the one it picked up this time was the same baby. I took them out near the entrance to read the bands and when I released her (with baby) she flew out and did not return during the next few minutes before I left.

June 11 1.3 mi. SE Sausalito, Marin Co.

The bats were ~~back~~^{still} at Golden's barn this time and we did not disturb them in the afternoon except to see that they were there. We returned to the barn with the Bensons before dark and stayed outside waiting for the bats to fly. at 7:45 we started seeing small bats flying - two Carl caught were Myotis californicus. at 7:55 the first Corynorhinus emerged and by 8:15 we had counted 52 Corynorhinus-size bats, all coming out the same hole they used before. We went in at this time. Bats were still flying about inside. When we got to where the bats were hanging,

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Corynorhinus rafinesquii

June 11

1.3 mi. SE Inverness, Marin Co., Calif.

the young were in one large and two smaller clusters and we counted 15 adults still with them, but these flew quickly. All adults we saw were banded. We caught one, a one-year old, still pregnant, hanging with the cluster of young. We caught another with unbanded young clinging to it hanging separate from the groups of young. There were 75 young (36 ♂♂, 39 ♀♀). Of the 14 banded last time, 11 were still present. Forearm measurements were:

16 mm.		♂♂		♀♀	
16 mm.	"	27 mm.	"	28	"
17	///	28	////	29	////
18	/	29	////	30	///
19	////	30	///	31	////
20	"	31	///	32	///
21	////	32	///	33	///
22	///	33	///	34	/
23	/	34	/	35	/
24	////	35	///	36	/
25	/	36	/	37	/
26	////	37	/		

~~The~~ The two 16-mm. ♂♂ and one 17-mm. ♀ still had umbilical cords. The 11 measured last time had ^{grown} increased as follows:

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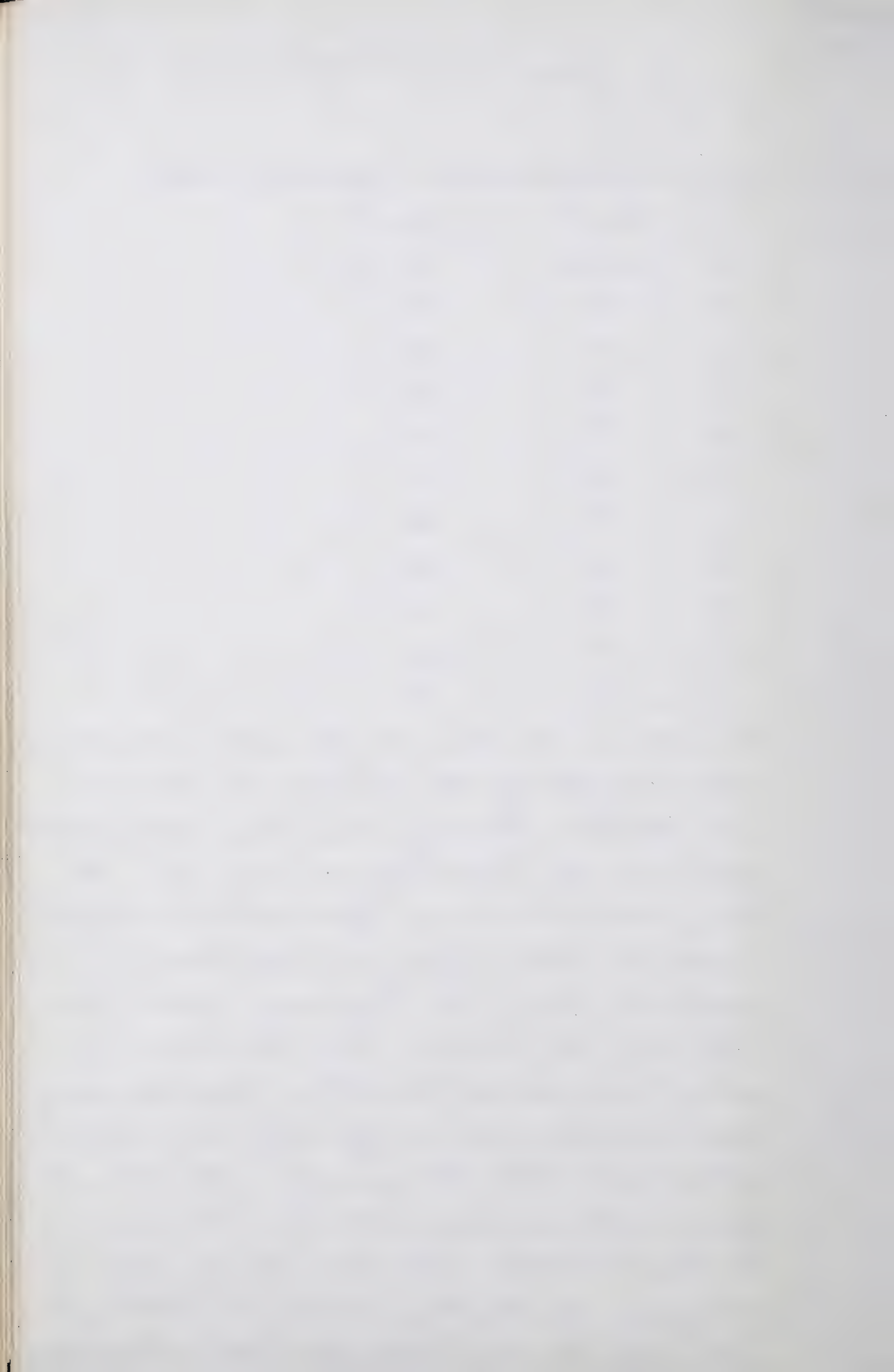
Corynorhinus rafinesquii

June 11

1.3 mi. SE Inverness, Marin Co., Calif.

	June 2	June 11
♂	17 mm.	28 mm.
♂	17	30
♀	18	30
♂	18	31
♂	19	30
♂	19	31
♀	19	32
♀	20	29
♀	23	35
♀	26	36
♂	27	35

It was 9:45 when we finished measuring and banding the young. We had seen no adults during this time and we saw none in the building as we left. We then went to bed and from where we slept could see bats flying outside near the entrance hole, so they may have been starting to return. In the morning when Carl entered the attic there were only two adults and two young. One adult flew and the lone young left behind felt cold, so may not have been clinging to that adult. The other young was clinging to the other adult. We didn't go into town to see if they were back in the red barn.



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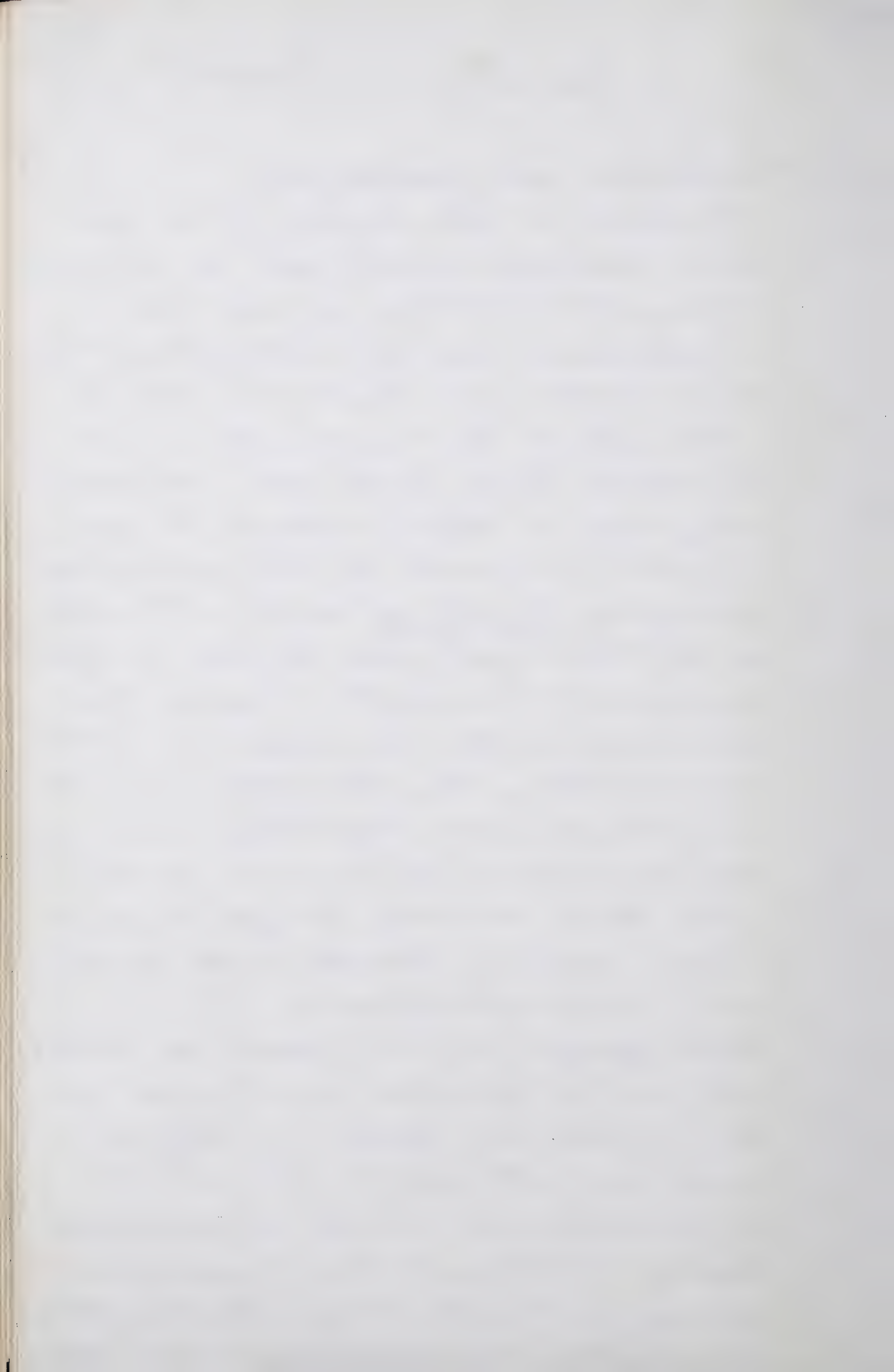
Corynorhinus rafinesquii

June 29

Aetna Mine, 1100', Napa Co., Calif.

There were no bats in either of the two lower tunnels. In the upper one where the colony was last time we saw one Corynorhinus (active - late afternoon) which escaped past the cave-in into the back part of the tunnel. It seemed reluctant to fly back there and did so only when we drove it clear to the end. We went on around the hill and explored further the boarded up tunnel with water in it. ^("Danger Keep Out" tunnels) In the part past the pool, we got an active ♂ clinging to a timber. Down the canyon below this tunnel we looked into another, also with water in it, but no bats. We went back to the houses and the owner told us of two more tunnels just below the house. We found one of them - entrance boarded, water running out - but still no bats.

Aetna Springs As a last resort, we looked into the kitchen attic, and there were our bats, bands all a-glitter. We left for supper and returned at 8:00. It was impossible to make a count of Corynorhinus leaving the colony because of Antrozous flying about. At 8:30 we entered the attic. Already there were many Antrozous night-roosting.



W. Koford
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Corynorhinus rafinesquii

June 29

Aetna Springs, Napa Co., Calif.

There were still some adult Corynorhinus, but more immatures. They were scattered singly and in clusters and so many were flying ^(including young) that a count was impossible.

We stayed by the entrance with a dim light but could not tell how many Corynorhinus entered or left because of the Antrozous which we couldn't distinguish from Corys. At 9:15 I went back to the end of the attic where most of the Corys were and shone a light on them.

All I could see were immatures. They were hanging scattered out rather than in a cluster. I don't think there could have been as many as the 35 or more young in the whole colony. We stayed until midnight, occasionally shining a light on the bats. By 11:00, a cluster had formed again, containing both adults and immatures, but it was nowhere near so large as the daytime cluster, not large enough to contain all the immatures, even with no adults present. It was about the same when we left and we were convinced that the colony was moving out again. In the morning, however, they were all back, in two large clusters. We caught all but 10.



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Corynorhinus rafinesquii

June 30 Aetna Springs, Napa Co., Calif.

There was one adult ♂, 26 adult ♀♀, and 33 young (18 ♀♀, 15 ♂♂). All adult ♀♀ were banded and we had all but 12 of ^{the adults} ~~those~~ taken last time. Of the 8 adults missing last time, 7 were still missing. The one which flew out of the tunnel carrying her young was present, also her young. All but one young were banded. This one could be born since last time or the one we accidentally released without a band last time. The one young missing last time was still missing, and also 4 others.

We killed one of the older young and found the stomach full of just milk. The history of weights and forearm lengths of the young still present is as follows (Two adults weighed were 10.3 and 9.3 gm., and two other adults measured had forearms 44 & 45 mm.).

✓ = taken but not measured			May 29		June 5		June 30	
♀	✓	4.8 gm.			35 mm.	6.6 gm.	✓	
♂	✓	4.4			34	6.0		42 mm. 8.3 gm.
♂	✓	3.7			34	5.9		42 7.7
♀	✓	4.1			34	5.7		43 9.0
♂	✓	4.0			33	6.0		42 8.2
♂	✓	4.1			33	5.5		40 8.2
♀	✓				32		✓	
♂	✓	3.8			32	5.9		41 8.6

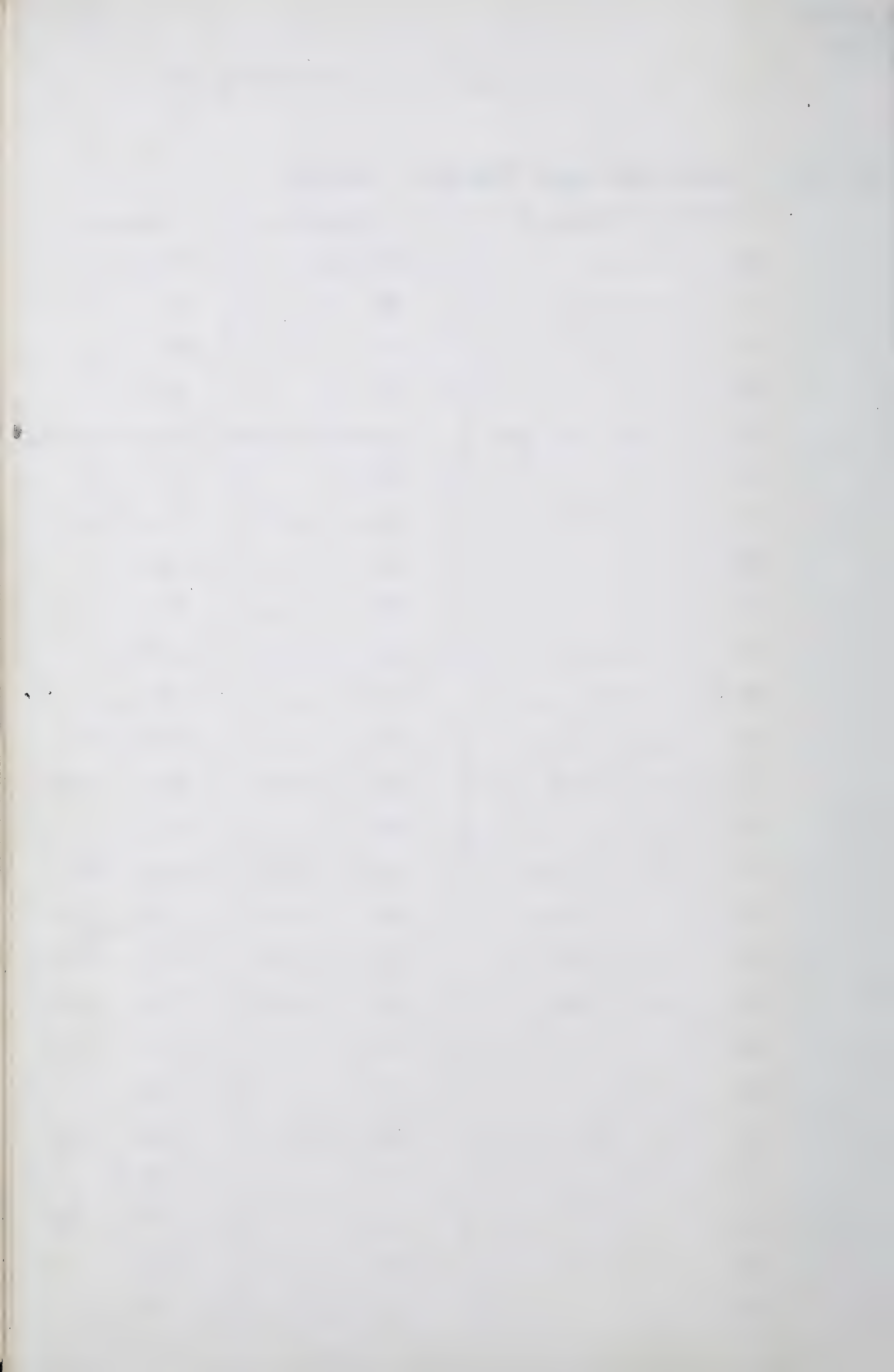
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Corynorhinus rafinesquii

June 30 Aetna Springs, Napa Co., Calif.

(cont.)	May 29	June 5	June 30
♂	✓	32 mm.	43 mm.
♂	✓	31	43
♂	✓	31	41
♀		31	43
♀	✓ 3.5 gm.	30 mm. 5.0 gm.	43 mm. 8.1 gm.
♀	✓	30	42
♂	✓ 3.1	30 4.9	42 8.0
♀	✓	29	43
♀	✓	29	42
♀	✓	29	42
♀	✓	29	41
♂	✓	29	41 8.0
♀	✓ 2.9	28 4.8	42 7.9
♂	✓	28	41
♀	✓ 2.7	27 4.9	43 8.9
♂	✓ 3.2	27 4.7	38 7.0
♀	✓ 2.5	✓ 4.5	✓ 8.7
♀	✓ 2.8	27 4.4	43 8.2
♀	✓ 2.7	27	41 7.8
♀		24	43
♂		20 3.1	41 8.0
♂		18	39
♂		17	37 6.4
♀		16	41
♀			39 6.5



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Corynorhinus rafinesquii

June 30

Aetna Springs, Napa Co., Calif.

We released them just inside the entrance of the attic and all flew but one. This was not one of the youngest, so it may have been injured. Most of them gathered in a cluster, but a separate cluster from the small one already present of the bats we hadn't caught.

July 22

Knoxville, 1262', Napa Co.

In the mine tunnel right beside the road we got one active ♂ hanging just inside the entrance.

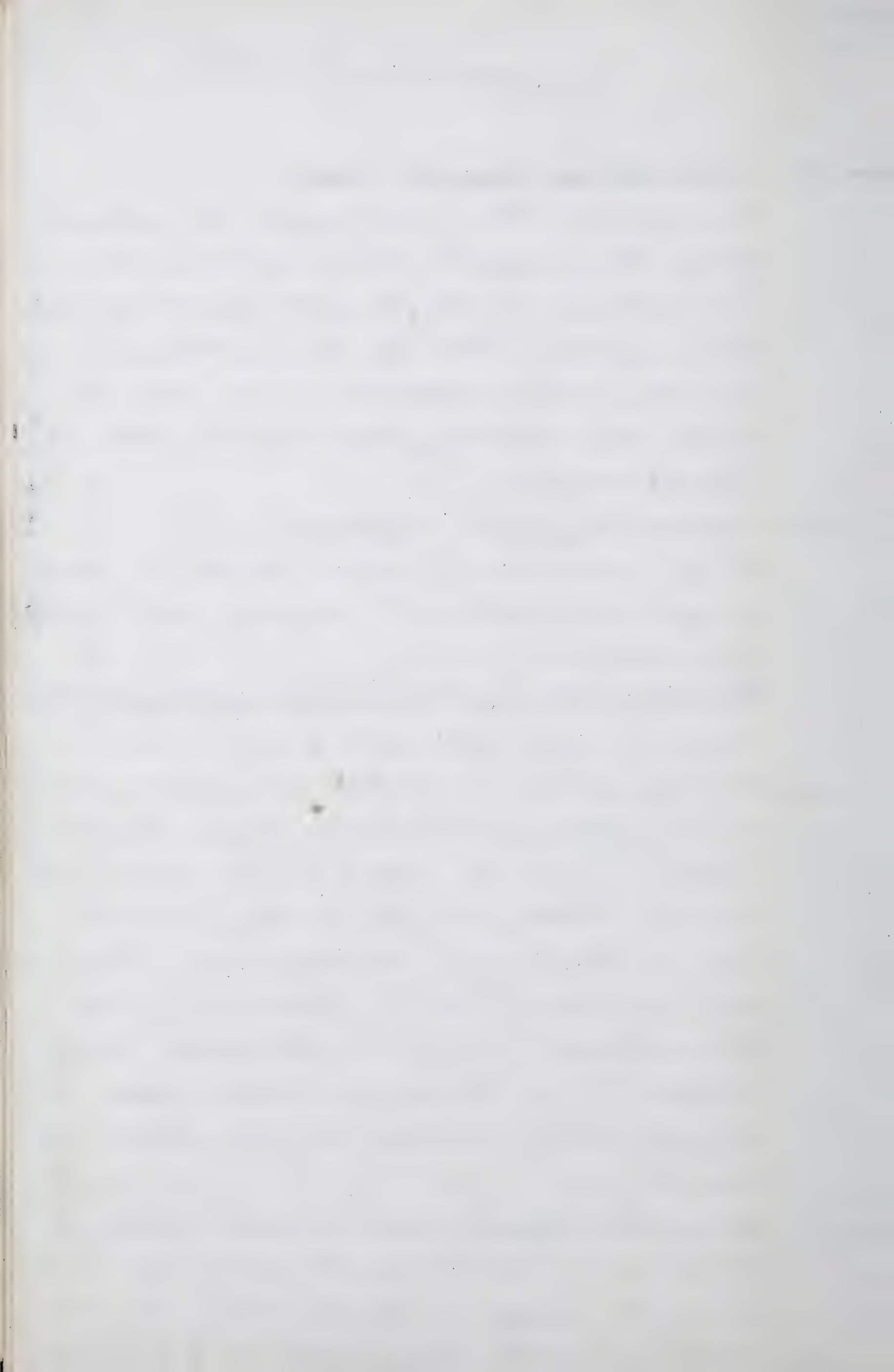
Reed Mine, 1750', 1 mi. NE Lake-Napa-Yolo Co. jct; Yolo Co.

1½ mi. by road up the hill from the mine headquarters we looked into two tunnels — one off on a side road below the main road, and one right ^(above) on the main road. In the latter, we got 4 Cory. About 100' in, the tunnel divided into 3 branches at right ^(anti-) angles. About 50' from the entrance (before the division) was one torpid ♀. In the right branch were a torpid ♀ and 2 active ♂♂ (flying when first seen).

July 27

mouth Malpass Cr., 5 mi S Carmel, Monterey Co.

Anita Pearson went to the old house here and found 20 Cory in the top attic. 13 were adult ♀♀ with large nipples (5 of them).



M. Koford
1949

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Corynorhinus rafinesquii

July 27 nr. mouth Malpaso Cr., 5 mi. S Carmel, Monterey Co., Calif.
(banded). One was apparently adult but with small nipples. Six were immature (3♀♀, 2♂♂, 1?). She banded the 15 unbanded ones and released all. Of the 5 banded ones, 2 were banded Sept. 13, 1947 and retaken May 9, 1948 pregnant, 2 more were banded May 9 pregnant, and 1 was banded May 9 as a newborn young.

(#s 42-138150, 1, 2, 5, 46-26862)

Aug. 2 Aetna Mine, Napa Co.

We looked into the 6 good tunnels that we know of and saw no bats.

Aetna Springs In the kitchen attic were 50 bats (actual count by Pearson & Krutzsch) all banded. We kept one (C-161782) banded April 28, lactating May 29 & June 5, taken June 30.

Angwin, Napa Co.

Pearson found one ♂ hanging on a beam on the lower floor of the stone building at the old winery.

Aug. 18 Old Bale Mill, 3 mi NW St. Helena, Napa Co.

In the barn next to the mill was a colony of perhaps 70. They were mostly in two clusters but a few were hanging singly, at least when first seen (about noon).

M. Koford
1949

78

Corynorhinus rafinesquii

Aug. 18 Old Bab Mill, 3 mi NW St. Helena, Napa Co., Calif.,
They flew readily and we caught only ~~18~~,
which we banded and released - 13 ad. ♀♀,
4 imm. ♀♀, 2 imm. ♂♂. We kept one of the ♂♂.
1 mi. NE Sulphur Bank Mine, Lake Co.

Under the house were 2 Corys, hanging in
the same corner and both active (flying
when first seen). We finally caught 2 -
one in the attic and one in the basement,
which we were fairly certain were the
same two since we could find no
more. One was a ♀, unbanded, in adult
pelage but with very tiny nipples like
an immature - ~~definitely~~ ^{probably} didn't lactate
this year. The other was a ♂, banded
March 9, 1947, alone under the house,
and taken again March 29, alone in the
basement (2 ♀♀ under the house).

Aug. 19 Sulphur Bank Mine, Lake Co.

In one of the abandoned mine buildings
we saw a Cory which escaped.

Morgan Valley School, 2500', Lake Co.

Under the schoolhouse was one ♂, active.
3 1/2 mi. by road beyond Lake-Napa Co. line (Manhattan
Mine 2000', 2 mi NW
Knoxville)

We stopped at a mine, and in one tunnel,
open at both ends, saw 2 active Corys
which we couldn't catch.

Knoxville, Napa Co. Nothing in tunnel by road.

M. Koford
1949

Corynorhinus rafinesquii

Aug. 25 Fremont Peak, 2900', 5 mi. N. 8 mi. E Salinas, Monterey Co., Calif.
In a natural cave, Anita found a ♂. It was awake enough to fly but still felt cool when caught. Testes 10 mm. In a mine tunnel she found a torpid ♀ - adult. Skins & reproductive tracts of both saved.

Aug. 26 nr. mouth Malpass Cr., 5 mi. S Carmel, Monterey Co.
In the attic, in a group and active, were 10 ♀♀ (7 adult, 2 immature, 1 ?) and 1 ♂. The ♂ had only 6-mm. testes but its color looked adult. The ? ♀ had tiny nipples and looked a little darker than the adults but not as dark as the two immatures. One of the others also answered this description but was known to be an adult (a one-year old) because it was banded ^(as juvenile in May, 1948) the same 1-yr. old which Anita got here in July¹⁹⁴⁹. All but one of the other⁽⁶⁾ adults were banded, 2 by Anita in July, 1949, 2 by me Sept., 1947, & 1 May, 1948, all 3 retaken by Anita in July. The 2 immatures were banded by Anita in July.

mouth of Carmel Valley

The ranch house on the Hatton Ranch (see *Corynorhinus* Aug. 12, 1948) has probably had a *Corynorhinus* colony in the attic. There are many Cory-size droppings and it is dark enough all around the sides. A few droppings looked fresh, but no bats.

M. Koford
1949

80

Corynorhinus rafinesquii

Sept. 10 Anverness, Marin Co., Calif.

Pearsons found 37 bats, plus about 5 which escaped, in the red barn. They didn't go to Golden's barn as the "folks" were staying there. They kept 6 banded bats. There were 6 unbanded ones, 4 of them with tiny nipples. Of the 31 banded ones, only ~~4~~ ^(one of them a ♂ - the only one present) were young of this year. There was a mummy on the floor, a young banded at Golden's barn.

Sept. 24 Old Bale Mill, 3 mi. NW St. Helena, Napa Co.

Pearsons caught 4 bats, 1 banded Aug. 18 as an immature ♀ and 3 unbanded ♀♀, 2 with tiny nipples.

Aetna Springs

In the kitchen attic they found 8 bats: 1 unbanded ♀ with tiny nipple, 1 banded young ♂, 4 banded young ♀♀, and 2 banded adult ♀♀. They kept the ♂, 1 ad ♀, & 2 young ♀♀. All the banded bats have known parents or young but there were no pairs present.

Aetna Mine

They got 1 banded adult ♀ which they kept. It was not taken at our last visit June 30, but neither was one of the 2 adults taken in the attic.

M. Koford
1949

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Corynorhinus rafinesquii

Oct. 3

Hutton Ranch, mouth of Carmel Valley, Monterey Co.

At the ranch which we visited Aug. 26, a child, Tehani Cheatham, found a banded bat which she said was caught by a cat. It was given to Laichlaw Williams by ^{the child's} ~~her~~ teacher, a Mrs. Blee at Sunset School, Carmel. It was one banded at Malpaso Creek in July by Anita Pearson. 123127 adult

Oct 5 Shasta Co.
see Pearson's notes.

Oct. 10

~~Box~~ 1.3 mi. SE Inverness, Marin Co.

In the attic of Golden's barn we found 6 *Corynorhinus*. They were active, and we chased them up and down stairs for some time before we finally caught all but one. This last one disappeared and, we suspect, left the barn. 4 of the 5 caught were banded and all were ♀♀. We then went to the red barn in Inverness. There was one bat here, also active, a banded ♂. All the banded bats, including the ♂, were young of this year.

Sept. 28

Elk, Mendocino Co., Calif.

The pupils in the school found 2 banded bats in the attic, along with 3 *Tadarida*.

They were banded as adult ♀♀ at Albion May 2, 1947.

M. Koford
1949

Corynorhinus rafinesquii

Oct. 18 Subway Cave, 4300', Old Station, Shasta Co., Calif.

We found no bats by day, but at 8:00 pm one banded ♂ in the north arm torpid. None the next day.

↑
Oct. 19 ^(Parish Cave) 300 yds. SE Ice Cave, 4300', Old Station

Anita found 4 ♀♀, 2 of them banded, all hanging singly (late afternoon).

In the small cave next to Ice Cave she found 2 more ♀♀. The next morning

Oct. 20 we looked in Parish Cave and the two Ice Caves again but found no bats

Beeler Ranch, SW Paynes Creek, Tehama Co.

In a small hole in a cliff was a ♂, quite wide awake (late afternoon). The cave was so small that one could stand in one place and reach almost all parts but the ceiling where the bat was hanging was far enough from the entrance to be quite dark.

Oct. 21 "Tommy Tucker Cave", mi. SE Wendel, Lassen Co.

We found no bats or sign in the cave and no part looked dark enough for Corynorhinus. However Mr. Fenenga has photographs of clusters of them here last May. The excavation of the cave by anthropologists was done several years ago, so the bats must have used it since then.

N. Koford
1949

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Corynorhinus rafinesquii

Oct. 31 Larkspur, Marin Co., Calif.

Dr. Benson got a letter from Washington about a banded bat, the "remains" of which were found in a cave within the city limits of Larkspur. He wrote to try to learn more details or the name of someone in Larkspur knowing circumstances. The bat was a young male banded this year at Golden's barn, 1.3 mi. SE Inverness.

Nov. 3 Aetna Mines, Napa Co.

No bats in the kitchen attic. In the west tunnel (see June 4 notes) ^(in the morning) were 3 active ♂♂. One was banded as a young one this year. There is a space above the timbers about half way back in this tunnel into which one of the bats flew and stayed until we found the place and chased it out. In the east tunnel was one torpid ♂. Nothing in the upper tunnel or in the one up the road (the boarded up one with water in it). We looked into two tunnels above the houses ^(on the left road) which Pearsons found last time. In the long one in red dirt was a torpid ♂. We drove to the Toyon Mine but found no good tunnels.

3 mi. NW St. Helena, Napa Co.

No bats in the barn at the Old Bale Mill.

M. Koford
1949

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Corynorhinus rafinesquii

Nov. 3 Angwin, Napa Co., Calif.

at the old winery at about 2:00 pm we found a torpid ♀ in the alcove in the door of the stone building, and an active ♂ on a rafter in the lower floor of the wooden building.

Nov. 10 Napa Co.

at the Reed Mine near Knoxville (see July 22) we looked into the two tunnels we found before and another tunnel on a side road above the main road between the other two.

No bats in any of them. at Knoxville we looked into both tunnels and found one torpid ♂ in the one by the water tank.

at the ~~Manhattan~~ Mine (see Aug. 19) we spent the night. Payne was here in October and collected a bunch of ♀♀ from one tunnel. We didn't find the same tunnel but looked into several others. We went through the fence and took a road to the left.

In a tunnel on the right of the road we got a torpid ♂. Beyond this, we took a left branch which led to a tunnel which we will call "Manzanita Hill". In here we marked the locations of 7 single torpid bats, without disturbing them. In another small hole to the right of the main entrance (connected by a crack to main tunnel inside) we marked one more.

M. Koford
1949

Corynorhinus rafinesquii

Nov. 10 Napa Co. (Manhattan Mine ^{2000', 2 mi. NW Knoxville} ~~near Knoxville~~)
Up the hill above the first tunnel
(the one to the right of the road) were
extensive diggings. We marked the location
of about ²⁵ ~~30~~ single torpid *Corynorhinus*
in the branches of one tunnel. About 5
were near the entrance before it started
to branch extensively and the rest were
farther in after it opened out from a
tunnel into a series of large chambers.
There were some vertical pits which we
couldn't cross and the air circulation
was good, so there may have been other
openings to the outside. There were also
3 *Eptesicus* in this part. We called this
tunnel the "catacombs". It was getting
dark by this time but Anita found one
more torpid ♂ in a tunnel up the hill
from this one. At 9:00 pm we returned to
the "Manzanita Hill" tunnel. 4 of the 8
marked bats were gone (including the one
in the separate cave). The 4 remaining
were 3 ♀♀ & 1 ♂, all torpid. At 4:00 am

Nov. 11 we returned to the "catacombs". We found
9 of our markers at spots where there were
no longer bats. At 13 markers bats were
still present and torpid. 6 torpid bats
were in new spots. All 19 were ♀♀. We

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M. Koford
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Corynorhinus rafinesquii

Nov. 11 Manhattan Mine, 2000', 2 mi. NW Knoxville, Napa Co.

took vaginal smears, banded, & released them^(inside). We also banded and released the 3 ♀♀ taken last night at "manzanita Hill". The temperature outside at 4:00 am was 6°C and inside where the bats were 12.5°C. Besides these torpid ♀♀ there were about 4 bats flying as we went in. We caught 2 of them, both ♂♂. As we went out, we found 2 more torpid unbanded ♀♀ in spots where we weren't likely to have missed them as we came in. Then we saw 3 more hanging in a new place but these all flew as we approached. We caught one, an unbanded ♀. One of the two which ~~flew~~^{escaped} was banded.

Nov. 18 Inverness, Marin Co.

We found no bats in either Golden's barn or the red barn in town.

Larkspur

We looked up Charles Z. Kiewert who sent in the report of banded bat 49-123123 (see Oct. 31). His son, one of the Cub Scouts who found the bat, took us to the tunnel which is up the hill above their house. It is an unbranched tunnel, perhaps 200' long. I found no bats or sign. He said the bat was right at the entrance and there wasn't

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Corynorhinus rafinesquii

Nov. 18 Larkspur, Marin Co., Calif.

much left of it. He says there are other tunnels nearby. The road to this one continues on past and might well lead to others.

Nov. 23 2½ mi. N Rio Nido, 500', Sonoma Co.

I found a torpid ♂ in a much-branched tunnel in the abandoned section above the main mine workings. It was a long way from the entrance but there may have been other ways in because it was very drafty and there were vertical passages which I could not follow.

Dec. 19 Manhattan Mine, ^{2000'} 2 mi. NW Knoxville, Napa Co.

In the tunnel where Payrie collected the ♀♀ in October, ^("OP Tunnel") they ~~found~~ ^{banded} 31 ♀♀ ~~(12 long wings)~~ and 25 ♂♂. In the "Catacombs" they banded 20 ♀♀ and 10 ♂♂, and found 4 ♀♀ banded Nov. 11 (3 in "Catacombs", 1 in "Manganita Hill"). 2 of these 3 were ones we thought came in while we were banding.

Jan. 2 3 mi. NW St. Helena, Napa Co.

No bats at the Old Dale Mill.

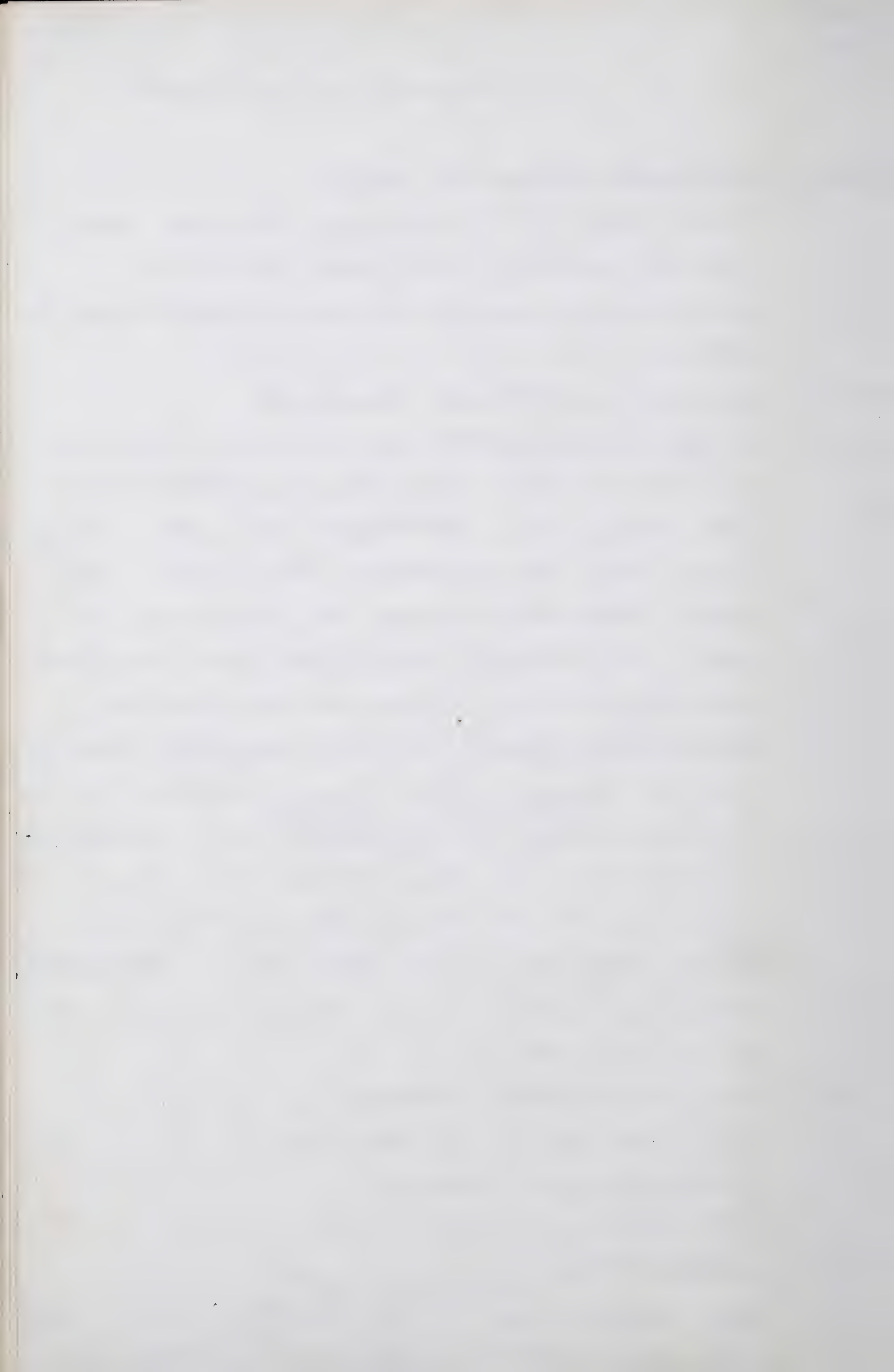
Aetna Springs, Napa Co.

No bats in kitchen attic.

Aetna Mines

with large epid. 7.8 yr

One torpid ♂₁ in "Danger Keep Out" tunnel in the part where it opens out to a high ceiling.



M. Koford
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Corynorhinus rafinesquii

Jan. 2 Aetna Mines, Napa Co., Calif.

The bat was near the ceiling at a temp. of 9.8°C (noon, outside 9°C). This part of the tunnel felt cool and drafty compared to other parts. In the other tunnels on this road we found none. We went back to the houses and took the left road. At the first big digging just above the houses Anita found 1 ♀ in the lowest hole at a temperature of 6.6°C . Nothing in the red dirt tunnel. Farther up this road we found 2 more tunnels. The first is on the first side road to the left, up the hill from the end of the road. The second is on the next left side road but the road leads right to it ("Tunnel No. 1"). No bats in these.

Howell Mtn.

A little south of Angwin where 4 roads come together near the top of the mountain we took a trail to look for a natural cave and stumbled onto a mine tunnel in back of someone's house. Near the end of the tunnel at a temperature of 11.6°C was a torpid ♂ ^{large epid. 9.2 gm.} (late afternoon).

Knoxville 13.8°C in tunnel out below 0°C

At 7:30 pm, nothing but a *Myotis californicus* in tunnel by road. Didn't look in other tunnel.

M. Koford
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Corynorhinus rafinesquii

Jan. 2 Manhattan Mine, 2000', 2 mi. NW Knoxville, Napa Co.
At 8:30 pm we arrived and collected the bats in the OP Tunnel. There were 14 unbanded ♀♀ and 1 unbanded ♂ ^{large epid. 7.4 gm.} (kept), and 6 banded ♀♀ (1 banded Nov. 11 at Manzanita Hill & taken Dec. 19 at Catacombs, 2 banded Dec. 19 Catacombs, 3 banded Dec. 19 at OP) ^{large epid.} and 2 banded ♂♂ (Catacombs Dec. 19 & OP Dec. 19). The temperature where some of the bats ^(♀♀) were was 6.0°C. The tails were all rather loosely curled except for 1 of the males. We walked in first and then collected the bats on the way out. By the time we got back to the first of them several were flying. All were single except for one cluster of 4 ♀♀ (2 banded). By the time we got to banding them all were active in the cage. Most of the ♀♀ were ^(including one in this condition Dec. 19) ~~goosey~~ exuding from the vagina. Of the 20 ♀♀, 4 had tiny nipples. Average weight of 14 unbanded ♀♀ was 9.7 (8.5 to 11.3); of 6 banded ♀♀ ave. was 8.9 (7.5 to 9.8). We released them in the tunnel.

Jan. 3 In the morning there were 4 bats in the tunnel, 3 of them banded and one an unbanded ♂ ^{tiny epid. 9.1 gm.} (kept). At 9:30 am we went to the "Catacombs" & collected the bats.



m. Koford
1950

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Corynorhinus rafinesquii

Jan. 3 Manhattan Mine, 2000', 2 mi. NW Knoxville, Napa Co.

We found 6 unbanded ♀♀ and 6 unbanded ♂♂, and 11 banded ♀♀ (5 of them taken last night in OP tunnel — all newly banded last night, 3 banded Nov. 11 at Catacombs and taken Dec. 19 Catacombs, 1 banded Nov. 11 Catacombs & not taken Dec. 19, and 2 banded Dec. 19 at OP) and 2 banded ♂♂ (Dec. 19 Catacombs). Of the 17 ♀♀, 2 had tiny nipples. Of the 8 ♂♂, 2 had tiny epididymides. All were single and torpid. Two which had tails more tightly curled than most were ♂♂ with tiny epid. Those in the straight part of the tunnel near the entrance (temp. 0.6°C.) were mostly ♀♀ while those in the large chambers farther in (temp. 11.0°C) were mostly ♂♂. We put most of them together in bags and they were ^{mostly} active by the time we banded them. One ♀ kept separate and placed on belly on ground took 42 minutes to wake up and fly at 8.0°C. Average weight of 5 unbanded ♀♀ was 9.4 (8.7 to 11.0); of 6 ♀♀ banded before last night 8.7 (7.8 to 9.3); and of 5 ♀♀ banded last night 10.4 (9.5 to 11.4). ~~Weights of ♂♂ (including 2 from OP Tunnel last night)~~ In the Manzanita Hill tunnel was a banded ♀ (OP Tunnel Jan. 2) and a banded ^{large epid.} ♂ (OP Tunnel Dec. 19).



N. Koford
1950

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Corynorhinus rafinesquii

Jan. 3

Manhattan Mine, 2000', 2 mi. NW Knoxville, Napa Co.

Anita found another tunnel above the
Manzanita Hill tunnel and in it 1 ♂ ^{large 8.5 gm} ^{epid.} (kept).

We also looked into the tunnel above the
Catacombs where she got a bat Nov. 11, but
found none. We went back to where we
came through the fence and took the
lower (right) road but found no good
tunnels on it. We then went back out
the middle road. ^(left road goes to Catacombs & Manzanita Hill.) ^{down} a shallow hole by
the road Anita found a ^{large} ♂ ^{epid.} which we banded.

Temperature where the bat was at noon 10.4°C.
We didn't stop to look into any of the
tunnels in the extensive diggings up the hill
from this road where we haven't found more
than 1 or 2 bats ^{in any one tunnel.} We went on past the OP tunnel,
looked into two more tunnels above the
road, and continued to the big digging
at the end of the road. We could find no
good tunnels here.

Weights of ♂♂ we didn't bring home:

♂ with
large epididymis

2 with small epid.

ave. wt. 8.3 (7.7 to 9.1)

8.4, 10.0

Jan. 20

Monterey Co.

Pearsons collected some at Fremont Peak
and banded 1 ♂ at Malpaso Cr.

M. Keford
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Corynorhinus rafinesquii

Feb. 7
~~Jan. 26~~

Pearson got a card from Brent Parrish at Old Station, Shasta Co. saying that there are bats in Parrish Cave. He removed one (band 42-162332) and turned it loose 2½ mi. up the creek.

Feb. 9 Anita and I went to Manhattan Mine, Napa Co. We left all the bats hanging where they were and didn't touch them except to paint a spot of silver enamel on the ear and wing. In the OP Tunnel there were 3 bats, one of them banded. We painted these on the right side. They did not seem very torpid and stirred as we touched them. When we came out one had already flown. This was about noon. In the Catacombs Tunnel there were 20, 9 of them banded (all on left wing?). We painted these on the left side. In the tunnel by the road below Catacombs was nothing. We didn't go to any others.

Knoxville

In the tunnel by the road we found nothing (daytime).

Feb. 10 Pearsons went to Shasta Co.

Feb. 16 Aetna Springs, Napa Co.

In the kitchen attic were 3 ♀♀ and a ♂, all single and torpid at noon. Temperature in attic at 2 pm was 17.4°C. We banded



M. Koford
1950

Corynorhinus rafinesquii

Feb. 16 Aetna Springs, Napa Co.

the ♂ and released it outside. It flew back into the attic. We kept the 3 ♀♀, all banded last year, one as an adult and 2 as young.

Aetna Mines

We looked into the two lower tunnels and the upper one where we have found the summer colony, the "Danger Keep Out" tunnel, the one just above the house, and the red dirt tunnel. The only bats we found were in the "Danger Keep Out" tunnel - a ♂ which we banded and released at the car (at the locked gate beyond the house) and a Myotis thysanodes.

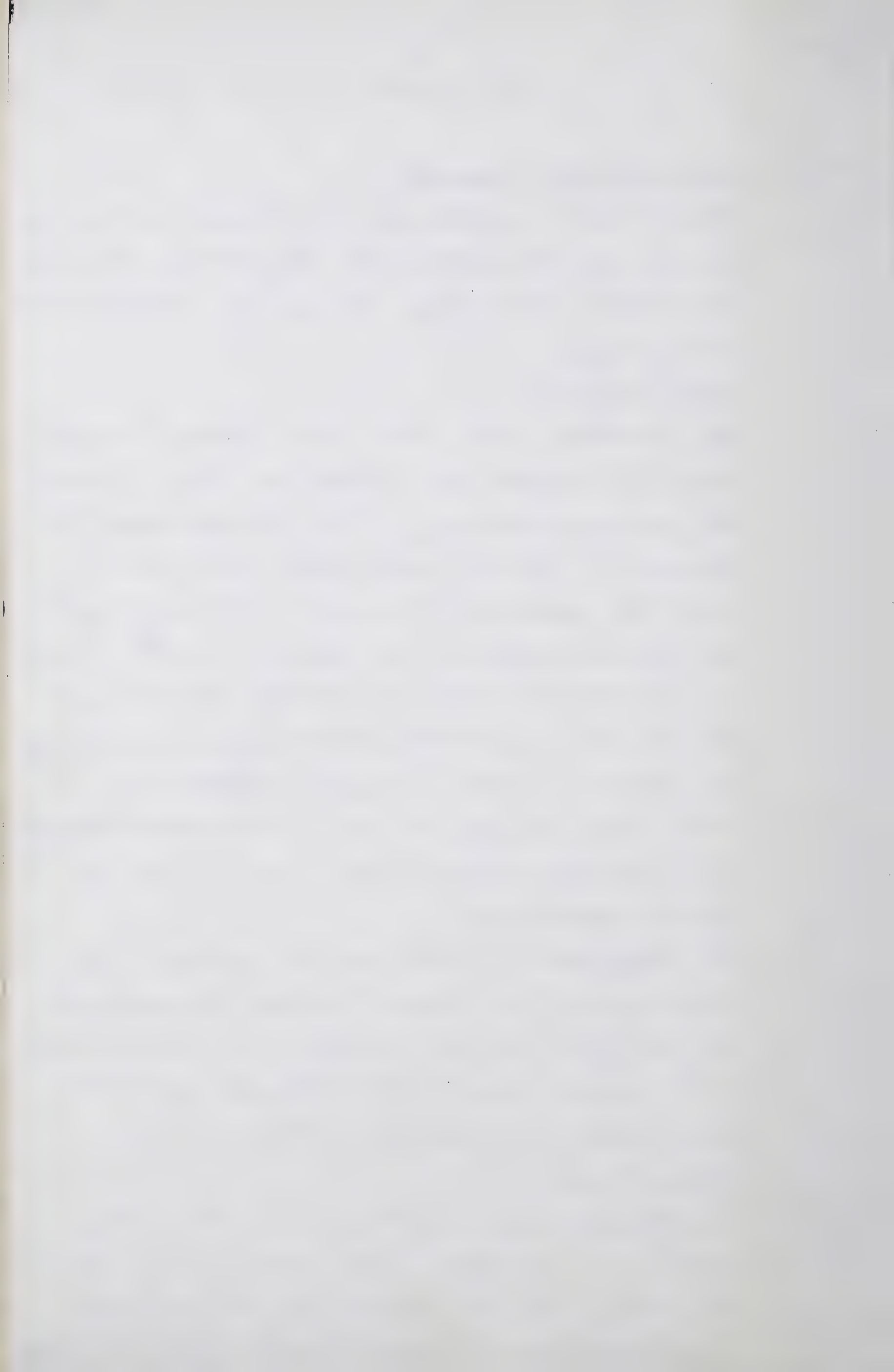
This was about 1:00 pm, bats were torpid, temperature where Cory was found 14.2°C.

Whiterock Mine

We stopped at this mine across the valley on the road toward Monticello. It is filled with water clear to the back over knee-deep but Benson got a Cory here once. We found nothing.

Reid Mine

In the tunnel right beside the main road we caught 4 ♂♂ and 2 ♀♀, active at dusk. We released the ♂♂ outside (banded) and kept the ♀♀. Didn't look in other tunnels here.



1. Koford
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Corynorhinus rafinesquii

Feb. 16 Knoxville, Napa Co.

After dark we looked in the tunnel by the road but found nothing.

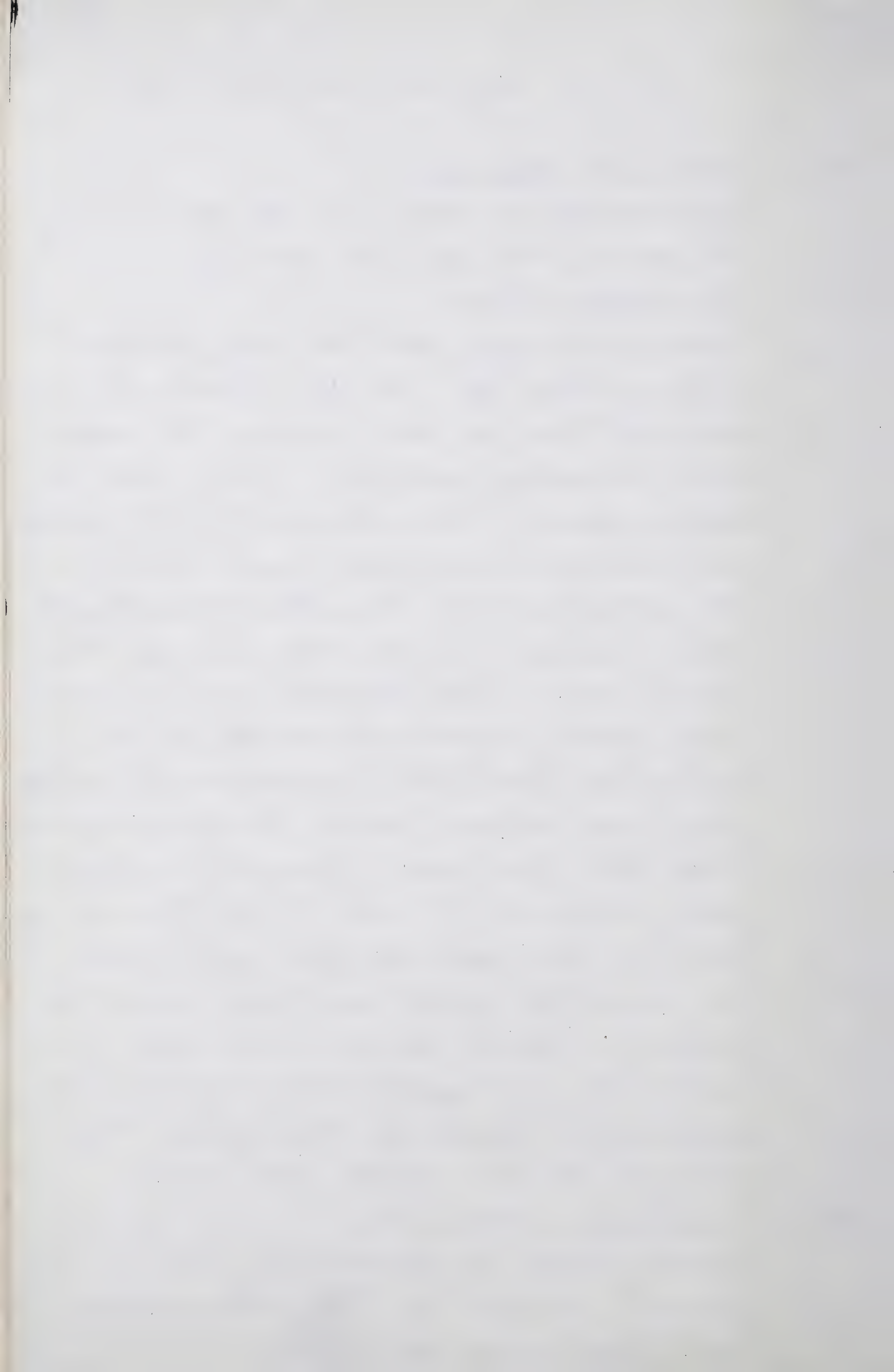
Feb. 17 Manhattan Mine

Again we simply painted bats without picking them up. In the Catacombs we painted them on both sides. We saw none already painted. There were 10 bats - one of them banded (Nov. 11 Catacombs, not taken since). We kept ^(# 123322) this one.

We painted 7 of the other 9; 2 escaped. One of these was already flying when first seen. The other was out of reach and flew before we could get to it after we knocked it down with a stick. This was about noon. The temperatures where the bats were hanging ranged from 54 to 58° F. In the OP Tunnel we painted two spots on the right side, one near the wrist and one near the elbow (also the ear). There were 5 bats here, all apparently unpainted and none banded. None flew. Temp. was 55 to 59° F where bats were.

Feb. 22 Inverness, Marin Co.

Pearsons went to Golden's barn Feb. 18. They found 3 banded ♀♀. They also released the ♀ kept since last Sept. 10.



M. Koford
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Corynorhinus rafinesquii

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Feb. 26 Knoxville, Napa Co.

At 10:00 pm we stopped at the tunnel by the road. There were 4 active bats - 3 ♀♀, 1 ♂. One of the ♀♀ had a little paint on the left wing. We kept one ♀ which looked immature and ^{banded ♀} released the other 3 bats the next morning along with those we banded at Catacombs. None were gooey around the vagina.

Feb. 27 Manhattan Mine, 2000', 2 mi. NW Knoxville

In the morning we collected all the bats, first in "OP tunnel", then in ~~"catacombs"~~ "manzanita hill", then "catacombs."

We missed one in OP - flying when we first saw it on our way out. All others were torpid. Temperature at coolest place where bats were hanging was 48°F.

We banded and released all but 1 ♂ from OP, 1 ♀ from Manzanita, and 2 ♀♀ from Catacombs. We released the Manzanita bats in Catacombs along with the bats collected there. In OP, were 11 bats. 1 was a ♂ banded Dec. 19 in OP and not taken since. The 10 ♀♀ were nearly all gooey about the vagina (a drop of fluid oozing out). One had tiny nipples. One was banded (Dec. 19, Jan. 2 OP). Three were painted - 2 with



M. Koford
1950

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Corynorhinus rafinesquii

Feb. 27 Manhattan Mine, 2000', 2 mi NW Knoxville, Napa Co.
paint on both sides (Catacombs Feb. 17)
and one with 2 spots on right (OP Feb. 17)
In Manzanita were 5 bats, 1 ♂
and 4 ♀♀. 3 ♀♀ were gooey. One had
tiny nipples. One was banded (Dec. 19
Catacombs, not taken since.). None
was painted. In Catacombs, were 13,
10 ♂ & 12 ♀♀. At least 4 of the ♀♀ were gooey.
The ♂ was banded in Catacombs Dec. 19
and not taken since. 3 of the ♀♀ were
banded, 2 in OP Dec. 19 and 1 in OP Jan. 2.
The 2 from Dec. 19 were also painted,
one on the left side (probably Catacombs Feb. 9)
and one on the right and possibly also
on the left (OP Feb. 9 or Catacombs Feb. 17)
This last was one of those brought home
and there was not a trace of paint left
when we got home.

Knoxville We looked in the tunnel by
the road again on our way home and
found nothing.

Aetna Springs

There was one torpid ♀ in the attic.
Band # C-161762. It was still too
torpid to fly when I took it back
after taking it outside to read the number.



M. Koford
1950

Corynorhinus rafinesquii

March 3 Carmel, Monterey Co.

Last Aug. 15 James W. Creager found a banded bat at his home in Carmel. It was brought in by a cat. Band # 49-123217 - banded by Anita Pearson as an immature ♀ in July.

March 11 Inverness, Marin Co.

The red barn in town is being torn down. At Golden's barn (1.3 mi. SE) was one torpid ♀, banded last year, with young, at the red barn (49-123043). ~~On the stair landing~~

March 25 Aetna Springs, Napa Co.

There were two torpid ♀♀ in the kitchen attic hanging singly. Neither was the one which we left last time. We kept both. One was a one-year old and one an older one.

Aetna Mine

Pearsons found 1 ♂ in the upper tunnel.

April 27 Aetna Springs

(+ 2[♂] escapes)
In the kitchen attic were 20 ♀♀ and a one-year old ♂ (banded). The ♀♀ were all banded and 4 were one-year olds. All had medium or large nipples. Pearson kept the ♂ & 4 ♀♀ (including 1 one-year old). They were clustered and active (noon).

M. Koford
1950

Corynorhinus rafinesquii

98

April 27 Aetna Mines, Napa Co., Calif.

We looked in the first three tunnels - Pearson got 1 torpid unbanded ♂ in upper tunnel, "Danger Keep Out" tunnel - nothing, the mine above the house, and the red dirt tunnel - only Peromyscus Knoxville

One ♂ & one ♀, both active, in the tunnel by the road, neither banded.

Manhattan Mine

In OP tunnel, were 2 torpid single ♂♂, one banded (123325-OP Dec 19) and one unbanded. In Catacombs was one torpid banded ♂ (123439-Cat) and one active unbanded ♂. In one tunnel in the big hole where Pearson found a ♂ & ♀ last fall, we found a colony of ♀♀. Many were active (2:30 pm) and left the group to fly around. We left to get nets and so didn't know how many of these returned to the group and how many hung somewhere else. After we returned with nets to block the entrance we caught most of the bats. Whether a large cluster may have formed in a place we didn't look is unknown. The colony we collected were mostly up in a small chimney,

M. Koford
1950

Corynorhinus rafinesquii

April 27 Manhattan Mine, 2000', 2 mi. NW Knoxville, Napa Co.
some of them so far up that it was almost a crack. Many of these were still torpid. We released them as we banded them in the large chamber which forms the entrance to several tunnels and most of them flew back into the one in which we had caught them. There were 140 ♀♀, 37 of them banded. Last winter from Nov. 11 to Feb. 27 we banded about 115 ♀♀ at Manhattan Mine, so it appears that these must have contributed to several summer colonies. The 37 returns were distributed among those banded ^(#all tunnels) on all our visits through the winter. Pearson kept 3 banded ones with tiny nipples and 11 unbanded ones — one which looked more pregnant than the others, and 10 selected at random. The banded ones with tiny nipples had tiny ones at time of banding. There were also 5 or 6 which had tiny nipples when banded but now have large or medium.

May 4
Pearson
went to
Sawtooth

May 7 1 mi. NE Sulphur Bank Mine, Lake Co.

In late afternoon 1 torpid ♂ & 1 torpid ♀, neither banded, hanging singly in basement.

M. Koford
1950

100

Corynorhinus rafinesquii

May 7 Lucerne, Lake Co.

Before dark, 1 banded ♂, awake, in end of north tunnel (46-26897, banded Jan. 24, 1948 and taken Feb. 13 and March 5, 1948).

May 8 In morning, one unbanded ♂ in end of south tunnel - flew out and into north tunnel where we caught it.

1 mi. NE Sulphur Bank Mine

One active unbanded ♂ in attic.

2 1/4 mi. SSE Wilbur Springs, Colusa Co.

One torpid ♂ under house.

May 24 Berkeley

David Watson, 89 Walnut St., Mill Valley, discovered a colony this spring in a copper mine north of Bolinas, ^(Marin Co.) (see Journal Nov. 29, 1949). You drive up hiway 1 out of Bolinas and stop at a farmhouse on the right with green shingles.

He also stopped at the Knorrville, Napa Co. tunnel by the road about May 20 and found 1 ♀ banded (49-123349) ^{Jan 20 - tiny m.} Dec. 19, at Manhattan Mine and present in the colony there on April 27, ^(small m.) She had recently ~~at~~ resorbed or given birth but was not lactating.

M. Koford
1950

101

Corynorhinus rafinesquii

June 1

Knoxville, Napa Co.

Anita got 1 ♂ at 11:30 pm in the tunnel by the road
49-123512 large epididymis. She saved stomach.

June 2

Manhattan Mine

The colony here was gone. They did find
2 banded bats: 49-123331 $\frac{4}{2}$ ♀ + 123559 ♀

Aetna Mine

They found the colony in the upper tunnel
back beyond the cave-in where we have
never gone before. All adults were
banded: 17 with clinging young, 3
lactating, 5 pregnant, and 5 non-breeding
(1 of these torpid, separate). They banded,
measured, and weighed the young: 17 with
mothers, 2 without. These ranged from new-
born (17-mm. forearm) to 29-mm. forearm.

June 5
see after
June 8

Aetna Mine We located the colony in the same
tunnel but only part way back to the cave-in.
62° Anita and Bernice went back after dark to
measure young. There were 23 young,
including 9 not taken last time (14 ♀♀, 9 ♂♂).
(This means there must be at least 4 adults
they didn't get last time.) The one born
June 2 had 23-mm. forearm. Anita castrated
one ♂. There were also 5 adults present - 4 with
young clinging. Aetna Springs We also stopped
at the kitchen attic before we went to the
mine. Temp. inside (mid-afternoon) was 82° F.



M. Koford
1950

Corynorhinus rafinesquii

June 8 Aetna Springs, Napa Co.

There were 3 active adults none of which we caught. One was banded on the right wing, one left wing, one unbanded.

Of the 28 banded adults taken ^{June 2} ~~this year~~ whose numbers we recorded, we got back 4 of a possible 13 one-year olds (2 non-breeding) and 24 of a possible 36 adults ^{left} from last year. Besides these, there were 2 whose numbers weren't recorded June 2 and 4 more to account for all the young on June 8. So there was probably about a 40% return of one-year olds and an 80% return of older ones.

See Aug. 10
148

June 5 1.3 mi. SE Lower Ness, Marin Co.

The temperature in the attic (mid-morning) was 52°F. We blocked it off and caught the bats. Some went down the eaves and we went after them. A few escaped through an opening to the outside from the eave. We read band numbers and weighed and measured the young. Young and adults which became separated during catching and banding, we put in a cage while we worked but none paired up. Adults with clinging young, pregnant or non-breeding, we released as we went along ^(in the room outside the dark attic). Toward the last, we hung the unattached young on the wall near us and a few were picked up by adults.



M. Koford
1950

103

Corynorhinus rafinesquii

June 5 1.3 mi. SE Inverness, Marin Co.

which we had already released. The adult usually lit several times before allowing a young to take hold. ^{They left by young on the floor as well as the wall.} and be carried off. One adult even lit on a cage beside us on the floor where we had young ones. Most of the (separated) babies however were still unclaimed when we left and we put them back up in the attic hanging in a bunch. One adult with clinging young could not fly when released. It just hung where we put it on the wall and made no attempt to fly. The young remained attached. We finally discovered that it had a finger thru the band, which was too loose. When this was released she flew without difficulty. This young one, incidentally, was one of three which Anita castrated. The other two were unattached young. One baby was born in the cage. We noticed something protruding slightly and put the adult in a cage to watch. Nothing happened for about $\frac{1}{2}$ hour and we stopped watching. About $\frac{1}{2}$ hour later the baby was out but we had failed to observe the process.



M. Koford
1950

Corynorhinus rafinesquii

104

June 5 1.3 mi. SE Inverness, Marin Co.

The placenta was not yet out but the baby with cord attached was ~~still~~ already clinging to the nipple. We put the bat back in the cage and a little later the placenta was expelled. The mother then left the baby hanging on the wire and went to hang on the other side of the cage. She did not return and after about an hour the baby felt quite cold. We cut off the placenta and put the baby on the mother's nipple. She left it again.

We put it on the nipple again and released her before she could get it off. She flew off with the baby attached. One young ♂ (castrated) with a 39-mm. forearm flew when released. With forearms at least as small as 35 mm. they fluttered the wings as if trying to fly. ~~One with 32 mm. forearm made an adult noise.~~

They seem to open their eyes when the forearm is about 27 mm., but the ears were erected in smaller ones (at least down to 25 mm.) with their eyes still closed. They are quite pink up to about 20-mm. forearm size and then

M. Koford
1950

Corynorhinus rafinesquii

June 5 1.3 mi SE Inverness, Marin Co.

gradually become more gray. There were 67 adult ♀♀. ^{2 of them unbanded} 3 were still pregnant, 9 apparently not breeding, 22 lactating but without young clinging, and 33 ~~with~~ with clinging young. There were 23 young ♀♀, 7 of them unattached.

There were 31 young ♂♂, 14 of them unattached. On May 4 there were 74 adult ♀♀. Pearsons kept 5, 13 ~~were~~ ^{are} missing, and 56 ~~were~~ ^{are} still present. Of the 11 new ones since May 4, 5 ~~were~~ ^{are} one year olds, 4 ~~were~~ ^{are} older ones, 2 ~~were~~ unbanded. Pearsons opened some on May 4 to measure embryos.

One of these we found dead. 3 of them were apparently non-breeding this time.

One had a young one. Of the other 6 which are non-breeding (not pregnant or lactating), 3 are 1-year-olds, 2 are 2-year-olds, and one is an older one which has had young before. Taking the

total of adults at the colony this year (May 4 and June 5) and determining the survival from those left in previous years, gives the following: 6 adults were new this year. Of last years young ♀♀, we got 15 of

M. Koford
1950

Corynorhina rufesquii

June 5

1.3 mi. SE Inverness, Marin Co.

a possible 39 (40%). Of last year's adults we got 27 of a possible 39 (Only a small sample of the adults was collected last year.) (70%). These percentages are almost ~~exactly~~ the same as those for the year 1947-48 when only the one year was considered (see Aug. 10, 1948).

From the 1948 season, we got ^(this year) 11 of 34 possible young ones and 41 of 87 adults. ^(70% per year)

From the 1947 season, we got 4 of 19 possible young (This number ⁽¹⁹⁾ is small because most of those which returned the first year were kept.) and 26 of 69 adults. ^(73% per year)

Bolinas

When we finished the Inverness colony we went to look for the colony which David Watson discovered north of Bolinas. (see May 24) We went to a house with green shingles east of the highway and asked about an abandoned copper mine. It turned out to be on the property just north of this house. You go thru a gate and to the end of the road, then walk up a creek - about $\frac{1}{2}$ mile they said - it seemed farther. The tunnel is on the right bank going up, just a little past a point where there was once a mill.

M. Koford
1950

Corynorhinus rafinesquii

June 5 Bolinas, Marin Co.

At this point there is what looks like a mine dump on the left, but no mine. There were no bats in the tunnel. Part of it was well ventilated enough to be a suitable winter roost. Part way down to the car on the same side of the creek is another tunnel with the entrance almost blocked which Anita crawled into, but no bats here either. It would be worth looking some more in this area to find this colony since it is so close to the Inverness colony and we might find some interchange.

June 8
see before
June 5

June 14 1.3 mi. SE Inverness,

Before dark we merely determined that the colony was present, then went in at 10:30 pm (daylight saving) to measure young. Some bats escaped - we did not determine how - but we saw at least one adult with clinging young and probably several volant young which we did not catch. The weights of young taken tonight are not accurate as the scales got as much as 1.3 gm. low between adjustments. With the young we collected were 3 lactating adults. Their young were

M. Koford
1950

108

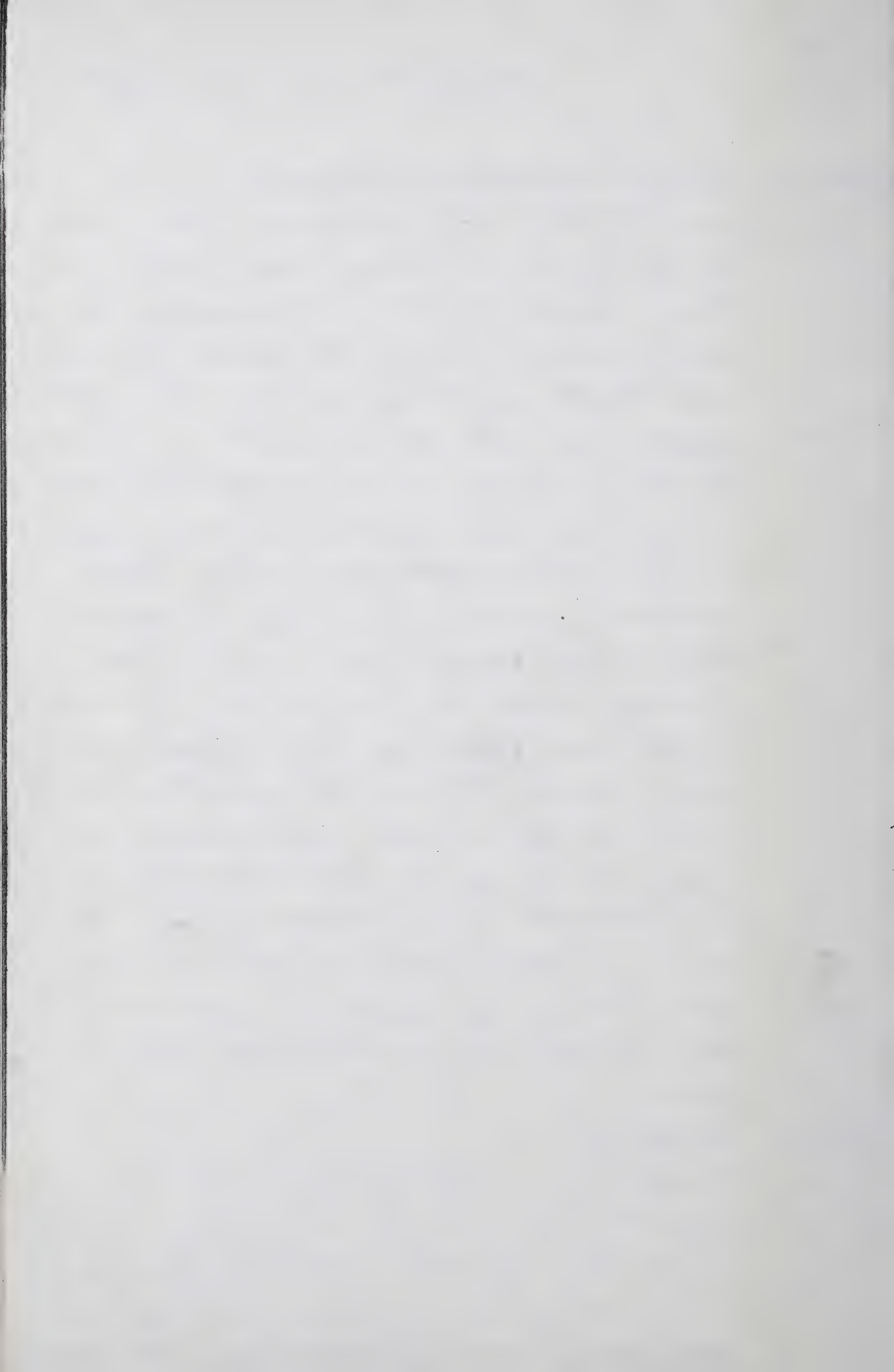
Corynorhinus rafinesquii

June 14 1.3 mi. SE Inverness, Marin Co.

present but not clinging. There were 22 young ♀♀, 2 of them new since last time, and 20 ♂♂. In addition there were mummies on the floor of 2 ♀♀ and 8 ♂♂, 1 of them new. One of the dead ones was the one born in the cage last time and 2 were castrated ones. They did not tend to be the ones which were separated from their mothers last time. Size of young this time ranged from 16-mm. forearm (one of the new ♀♀) to 41-mm. One with a 29-mm. forearm still had its eyes closed. When ^{Carl} ~~we~~ went back to look at the bats in the morning, many of the young seemed not to have adults with them. Either the adults had not all returned or they were hanging separate from the young. One young was on the floor but still alive.

July 5 Berkeley

On June 11, Jack Guggolz found two banded bats at the mouth of a mine in northern Napa Co. (probably Knoxville). #s 49-123568 & 41-234646, banded April 27 at Manhattan Mine in the colony.



M. Koford
1950

109

Corynorhinus rafinesquii

July 26

nr. mouth Malpaso Cr., 5 mi. S Carmel, Monterey Co.

clm the old house here we caught 13 bats, and about 7 or 8 escaped.

One, a lactating adult, was torpid in the upper attic ^(mid-afternoon), and the rest were in the side attic and active by the time we got to them. There were 3 young ♀♀, 9 lactating adults, and one non-breeding adult. All the adults were banded. The non-breeding one was a one-year old and the other 9 were adults from last year. This is a return of 9 out of 13 ^{of the} breeding adults from last July. One other was found dead in the meantime at the Hutton Ranch. Two of the 9 were banded 2 years ago in May and were pregnant then. There was also a mummy of a young ♂ hanging in the side attic.

Ramage
M. Koford
1946

Antrozous pallidus - banding record

July 9 3 mi. SE Calistoga, Napa Co., Calif.

46 - 15001 ♂ ad

2 "

3 "

4 "

5 "

6 "

7 "

" ⁸ 1/2 mi. E Pope Valley P.O., Napa Co., Calif.

9 ♂ juv.

10 ♂ juv.

11 ♂ juv.

12 ♂ juv.

13 ♀ "

14 ♀ "

15 ♀ "

16 ♀ "

17 ♀ "

18 ♀ "

19 ♀ ad.

20 ♂ juv. July 14 July 20 + mother (15086)

21 ♀ "

22 ♀ "

23 ♀ ad.

July 14 3 mi. SE Calistoga

24 ♂ ad.

25 ♂ "

26 ♂ "

April 19 ^{ch} wing



Ramage
M. Hofer
1946

(2)

Antrozous pallidus

July 14 1/2 mi. E Pope Valley P.O., Napa Co., Calif.

46-15027 ♂ juv.

8 " "

9 " "

30 " "

1 " "

July 20

2 " "

3 " "

4 " "

5 " "

6 " "

found by children Pope Valley Sept 19 '47

7 " "

8 " "

9 " "

40 " "

July 20

1 " "

2 " "

3 " "

July 20

4 " "

5 " "

July 20

6 " "

7 " "

8 " "

Oct 20

9 " "

50 " "

1 " "

2 " "

3 " "



Ramage
M. Koford
1946

Antrozous pallidus

July 14 1/2 mi. E Pope Valley T.O., Napa Co., Calif.

46-15054 ♂ juv.

5 " "

6 " "

7 ♀ juv.

8 " "

9 " "

60 " " ? April 20 ch → 26153

1 " "

2 " "

3 " "

4 " " (probably this no.)
changed → 16449 Oct. 20

5 " " July 19

6 " "

7 " "

8 " " July 20

9 " "

70 " " April 20

1 " "

2 " " ? April 20 ch → 26151

3 " " July 20

4 " "

5 " "

6 " "

7 " "

8 " "

9 " "

80 " "



Ramage
M. Koford
1946

(4)

antrozous pallidus

July 14 1/2 mi. E Pope Valley P.O., Napa Co., Calif.

46-15081 ♀ ad.

2 " "

3 " "

4 " "

5 " "

6 " "

7 " "

8 " "

9 " "

90 " "

1 " "

2 " "

3 " "

4 " "

5 " "

6 " "

7 " "

8 " "

9 " "

100 " "

1 " "

2 " "

3 " "

4 " "

5 " "

6 " "

7 " "

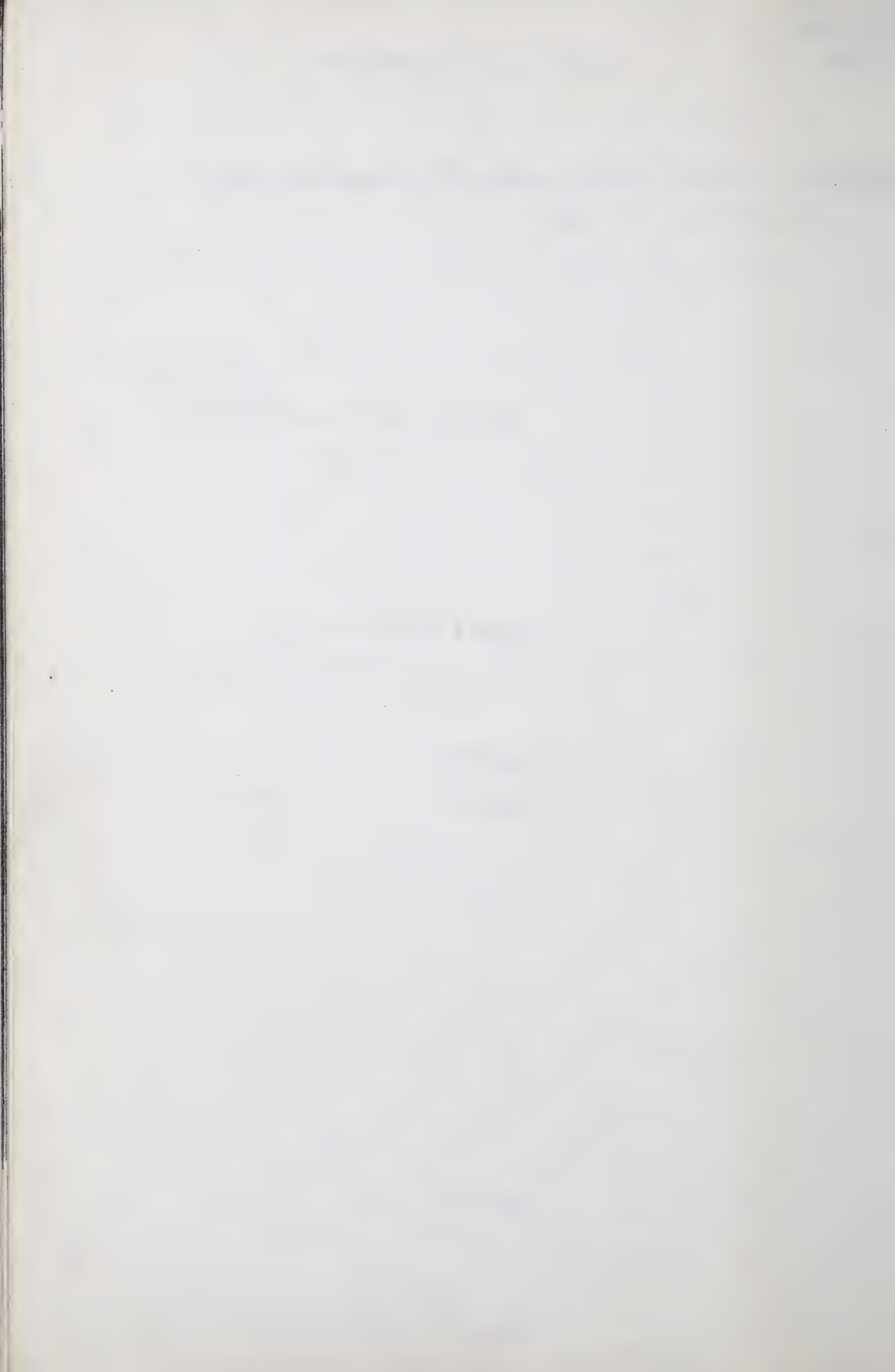
July 20 + young (15020)

April 20 ch -> 26171

April 20

July 20

April 20



Ramage
M. H. H. H.
1946

Antrozous pallidus

July 14

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

46-15108 ♀ ad.

9 " "

10 " "

1 " "

2 " "

3 " "

4 " "

5 ♂ ad.

6 " "

7 " "

8 " "

Aug 7

9 " "

July 19

20 " "

1 " "

2 " "

3 " "

4 ♀ ad.

5 ♀ juv.

6 ♂ juv.

July 19

15470 ♂ juv.

April 20

1 ♀ ad

2 ♀ ad

3 ♀ juv.

4 ♂ ad

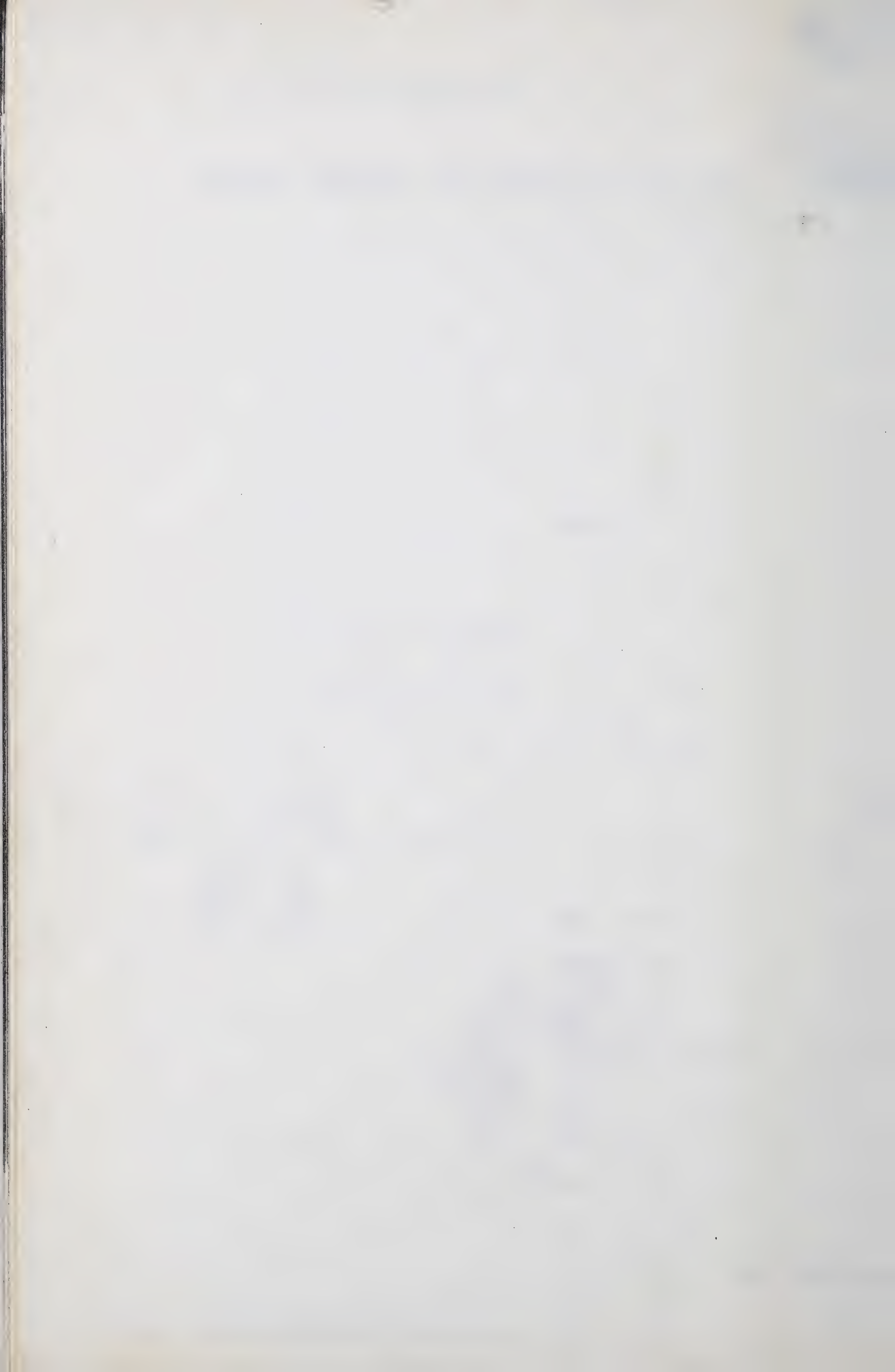
July 20

~~15~~ 5 ♀ ad

6 ♀ ad

7 ♀ ad

killed at Pope Valley Store June 1949



M. Ramage
1946

Antrozous pallidus

July 20 1/2 mi. E Pope Valley P.O., Napa Co., Calif.
46-15 4 78 ♀ ad ? April 20 '47 ch → 26152 killed at
Pope Valley store June '49

9 " "

80 " "

1 " "

2 " "

3 " " killed at Pope Valley store June 1949

4 " "

5 ♂ ad

6 " "

7 " "

8 " "

9 ♀ juv.

90 " "

1 " "

2 " "

3 ♂ juv. April 20

4 " "

5 ♂ ad

6 " "

7 " "

8 ♂ juv.

9 " " April 20

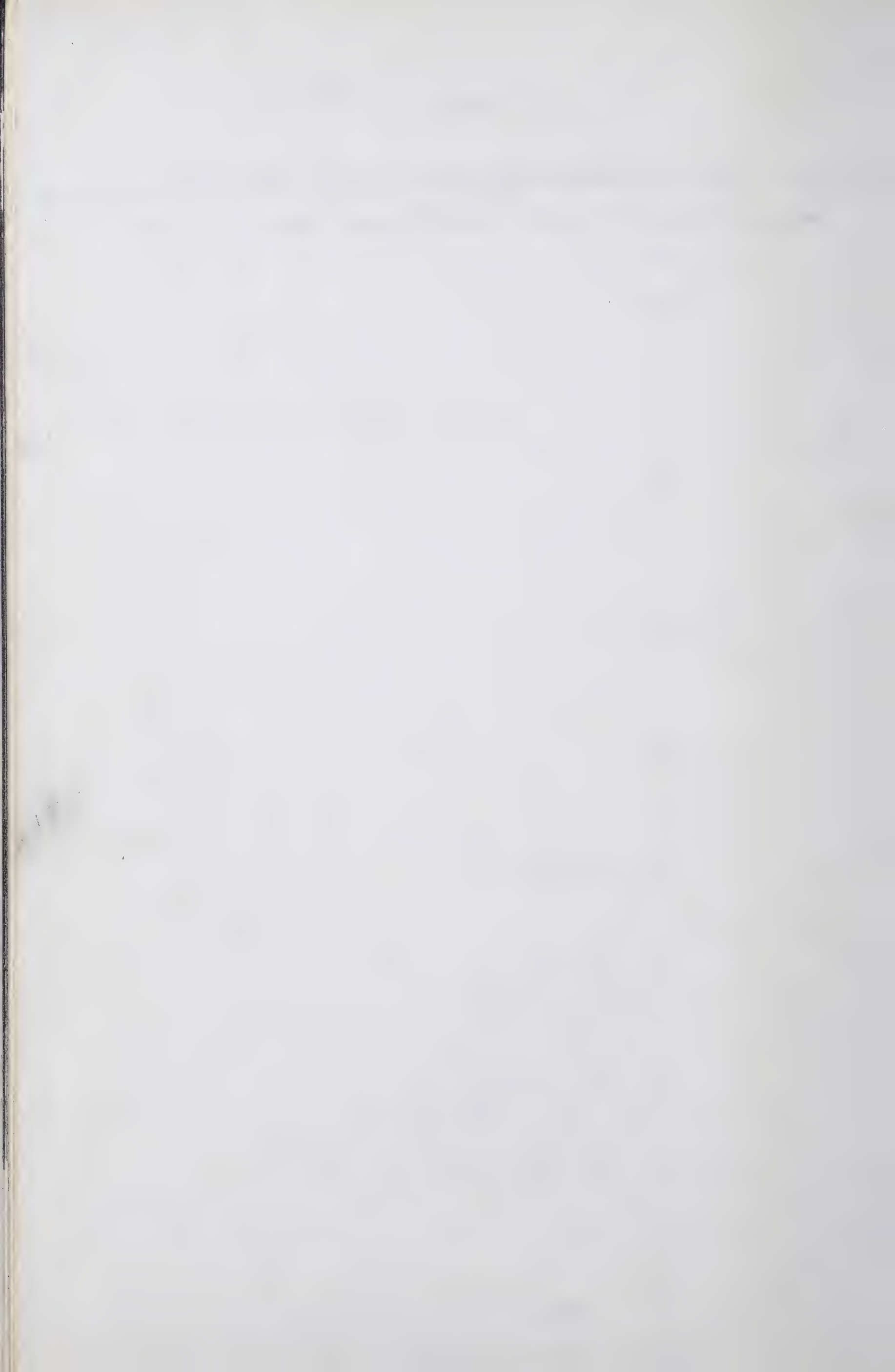
300 ♀ ad Aug 8

Aug. 7 16 0 77 " "

8 " "

9 ♂ ad

80 ♀ im.



M. Ramage
1946-7

Antrozous pallidus

Aug. 7 1/2 mi. E Pope Valley P.O., Napa Co., Calif.

46-16081 ♀ im.

2 ♂ im.

Aug. 8

3 ♀ ad.

4 ♂ ad.

5 " "

6 " "

7 ♂ im.

Oct. 20
started
banding
on wing

437 ♂

April 20

8 ♂

9 ♀

40 to 3 ♂♂

4 ♀

5 to 7 ♂♂

9 ♀ (changed from 15064)

50 ♂ (changed from 1-16)

Nov. 17 3 mi. SE Calistoga, Napa Co.

633 ♂

April 19 26001-7 ♂♂

April 20 1/2 mi. E Pope Valley P.O.

142-7 ♀♀

9-50 ♀♀

51 ♀ (from 15072?)

2 ♀ (from 15478?)

killed at Pope Valley store
June 1949

3 ♀ (" 15060?)

6 ♂

7-63 ♀♀

26159, 161 killed at Pope Valley store
June, 1949

64 ♂

m. Koford
1947

(8)

Antrozous pallidus

April 20 1/2 mi. E Pope Valley P.O., Napa Co., Calif.

46 26165 - 7 ♀♀

26166 killed at Pope Valley Store June 1949

8 ♂

9 - 70 ♀♀

71 ♀ (changed from 15091)

2 - 4 ♀♀ 26173 killed at Pope Valley Store June 1949

Aug. 24 3 mi. SW Vacaville, Solano Co.

47 154 to 169 ♂♂

170 to 229 ♀♀

Aug 26 Berkeley (from 2 mi. S Livermore, Alameda Co.)

236 ♂

e. Ramage
1945

1.

Antrozous pallidus

June 3

Lebec, Kern Co., Calif.

Shortly after dark we entered a small room at the corner of the hotel used as an ice house. It had an open door and window and we had found bat droppings in it. We saw 2 Antrozous which got away.

About an hour later we got a Myotis volans here and an Antrozous in a dugout garbage pit with a single door.

June 4

Tonight we got 1 Antrozous at 9:00 and 3 at 11:00. The ♀♀ had 2 embryos each.

March 18

3 mi. SE

7 mi. S Calistoga, Napa Co., Calif.

In a barn on a ranch here we found 1 ♂ hanging on a beam.

April 1

In the house on the same ranch we found one almost dead at the foot of the stairs leading to the attic.

April 7

Arroyo Mocho, Livermore, Alameda Co.

I got 1 ♂ under the bridge where Dalquest has collected. (Dalquest & Benson had been there 2 days before, collecting 11 and leaving some.)

July 8

1/2 mi. S Angwin, Napa Co., Calif.

On the roof of the wooden building we found 50 ♂♂ in a box-like space near the top of the gable at one end which we got at by ripping off a couple of shingles.

c. Ramage
1945

Antrozous pallidus

July 8 Pope Valley School, 1/2 mi. E Pope Valley P. O., Napa Co., Calif.
In the attic of this small schoolhouse there are literally hundreds of ♀♀ with young. They ~~are~~ ^{were} partly out in the open ^{when we first entered} clinging on the roof and partly between the metal roof and the boards supporting it. There are also several hundred Tadarida.

coll.
1977,
988

Aug. 24 3 mi. SE Calistoga, Napa Co., Calif. (barn on Reliez Ranch)
In the barn where we got the Antrozous before (not the one with the Corynorhinus) we got 7♂♂ out of a crack in the attic floor (extending through ceiling of lower story).

Pope Valley School The situation here is about the same as on our last visit except that the Antrozous didn't seem to retreat as readily into the walls and roof. A sample collected was 7♂♂ and 1♀.

(young or ad.?)

C. Ramege
1945

Antrozous pallidus

Sept. 9

2½ mi. ENE Pescadero, San Mateo Co., Calif.
Under a loose section of wall on the south ^(outside) side of an abandoned house was a large colony of mixed Antrozous and Tadarida. We obtained a number of each, but saved only 1 Tadarida & 2 Antrozous (1♂, 1♀). In the attic of the same house was 1 Corynorhinus.

Sept. 15

Silver Creek, 900 ft., 7½ mi. ESE Panoche, San Benito Co., Calif.
A mixed colony of Antrozous and Tadarida occupied the crack from which the Eumops were collected in June (Benson & Delquist). We took one of each. One Antrozous which flew out of this crack flew into a smaller one up toward the top of the cliff.

Sept. 18

Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.
At 9:45 p.m., 3 Myotis yumanensis and 1 Antrozous in an empty 3-room house with a door to the outside from each room and several windows in each room and a porch around the outside.

Nov. 4

Pope Valley School, ½ mi. E Pope Valley P.O., Napa Co., Calif.
The bats in the school attic this time were mostly Tadarida. The Antrozous which we got hold of were all ♂'s except one, with greatly varying sizes of testes. The 1 ♀ did not, apparently, have any sperm in the uterus ^(smear).



K.C. Ramage
1945 - 6

4.

Antrozous pallidus

Dec. 2 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co., Calif.
Dr. Benson found 1 ♂ together with 1 Myotis yumanensis (♂) and 2 Eptesicus (♀♀) under a piece of wallpaper. 4 more Myotis yumanensis (♂♂) and a Corynorhinus (♂) were also collected in the same house. All bats were cold and inactive.

July 9 3 mi. SE Calistoga, Napa Co., Calif. (barn on Reliez Ranch)
6:00 p.m. There were about 50 Antrozous behind the barn door. I caught 4 and the rest flew. I located 5 hanging on beams in a dark corner inside the barn (downstairs) and caught 4 of them. They were probably some of the same ones which I had chased from behind the door. All were adult ♂♂. I banded and released the 8 which I caught.

1/2 mi. S Angwin, Napa Co., Calif.

Found no Antrozous (see July 8, 1945).

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

I arrived here just at dusk and the bats were already flying outside. Those few which flew near enough for me to identify were almost certainly Antrozous. In the attic of the school a number of Antrozous were flying, several of them (I had a sack of young in my hand) striking me as they flew past, and I had a fleeting glimpse of one Tadarida before



M.C. Ramage
1946

Antrozous pallidus

July 9

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

it disappeared in the roof. I could hear many bats moving and squeaking in the roof but could see none of them. In one place in the wall I located a large number (I have no way of estimating how many) of young *Antrozous*. Many of them are almost adult size now, but there is considerable range in size. They withdrew quickly from the opening when disturbed by my catching them with forceps, but did not seem to be disturbed by ^{flash-}light ~~me~~ to nearly the extent that adult bats are, for some of them returned to the opening right in the face of my flashlight, only withdrawing again when touched by the forceps. The only adult I saw this 1st time right at this spot was one which I caught in the crack with the young. at about 9:30 I returned to the attic and found conditions about the same. The bats withdrew from the opening when disturbed and I saw no adults ^(at this crack). at 10:00 I caught another adult in the crack, this time with at least one young clinging to her, and while I was there several adults flew up as if to enter the crack



M.C. Ramage
1946

Antrozous pallidus

6.

July 9

1/2 mi. E Pope Valley P.O., Napa Co., Calif.
and were apparently discouraged from doing so by my presence. The 2 adult (lactating) ♀♀, 8 juvenil ♀♀, and 5 juv. ♂♂ which I caught, I banded and released into this same opening.

July 14

~~3 mi. SE Calistoga, Napa Co., Calif.~~ (barn on Reliez Ranch)
At 1:00 p.m. there were no bats behind the barn door. We found 3 adult ♂♂ in the space between the roof and the top of the end wall, and banded them.

~~1/2 mi. S Angwin, No~~

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

Arriving at the schoolhouse at about 3:00 p.m. on a slightly overcast day, we found several hundred bats hanging in the open (outside of the cracks) ^{at the dark end of the attic} in big clusters. We collected as many as we could. At the other end we pulled some more out of cracks. A tally revealed ¹⁹~~25~~ *Tadarida*, 35 adult ♀♀ *Antrozous*, 9 adult ♂♂, 28 young ♀♀, and 32 young ♂♂. In contrast to the situation of the evening of March 9, many, perhaps all, of the young were clinging to adult ♀♀. The adult ♀♀ were all lactating and the adult ♂♂ were all in breeding condition. There appeared to be some sort of segregation, as most of the adult ♂♂ were ^{found} among the relatively



M.C. Ramag
1946

7.

Antrozous pallidus

July 14

1/2 mi. E Pope Valley P.O., Napa Co., Calif.
few bats taken from cracks at the light end of the attic. Some of the young are able to fly short distances. One of the young ♂♂ and three of the young ♀♀ had already been banded (July 9). All the rest we banded and released. When I returned to the attic with a sack of young which had been missing for several hours, I again noticed adult bats flying down and hitting me or the sack. One adult ♀ collected with two young hanging onto it was kept separate. The young remained, one holding onto each nipple, and if removed would quickly attach themselves again as soon as they were returned to the sack. When released, the adult crawled into a crack with the young still hanging on.

July 19

When I entered the attic at 4:00 p.m. on a hotter day than the last one (J. 14) there were only a few bats hanging out in the ^(at the dark end of the attic) opening and these were very active and quickly disappeared. I caught 7 of them. Two of them (1 ♂ ad, 1 ♀ juv.) had been banded on July 14. The numbers were perfectly legible although the band on

M.C. Ramage
1946

8.

Antrozous pallidus

July 19

½ mi. E Pope Valley P.O., Napa Co., Calif.

the adult had been extensively chewed on, and there was no evidence of inflammation or irritation around the bands. The other 5 [1 adult ♂, 2 lactating ♀♀, and 2 young (♂, ♀)] were banded and all 7 released. The fact that 2 out of 7 were adult ♂♂ is worthy of note since on July 14 in this same situation ^{only} 2 out of about 80 ~~taken in this~~ were adult ♂♂, while most of the adult ♂♂ were taken from a crack at the light end of the attic.

July 20

When I entered the attic at 8:00 a.m. there were several groups of bats hanging out on the beams in the same places as before, more than last night but not nearly so many as July 14. As soon as they were disturbed they retreated up into the roof. I got 35, 9 of them banded July 14 and 9. Of the 9 banded ones 4 were young ♂♂, 2 young ♀♀, and 2 adult ♀♀. The bands on all the young were completely intact but those on the 2 adults were extensively chewed and although the bands were quite legible the legs were irritated and inflamed and on one the membrane was chewed off on one side. I banded and

M.C. Ramage
1946

9.

Antrozous pallidus

July 20

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

released the other 26 (11 adult ♀♀, 7 adult ♂♂, 4 young ♀♀, 4 young ♂♂). The testes were descended in most of the young ♂♂ caught this morning as well as the adults. I remember noticing this in the adults July 14 but don't remember looking at any of the young.

Aug. 7

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

At 8:00 p.m. (just after dark) I entered the attic. Some bats were flying about and some were hanging on the ceiling, but they were too active to be caught. In one space in the wall similar to the one in which I found bats July 9 I could see a number of bats most of which looked like young. I caught one here which proved to be an adult ♂ banded July 14. The band was badly chewed and the leg sore. At 9:30 there were still about the same number flying about but none in the space in the wall. At 12:00, fewer bats were flying but many more were hanging on the ceiling. They were clustered in a different place than that in which I found them July 14 & 19, and were higher and hard to reach. I could get only one handful before they

H.C. Ramage
1946

Antrozous pallidus

10.

- Aug. 7 ½ mi. E Pope Valley P.O., Napa Co., Calif.
all flew or crawled out of reach in the roof.
There were 2 adult ♀♀, 1 adult ♂, 2 young ♀♀,
and 1 young ♂, all unbanded. At 2:00 a.m.
- Aug. 8 the situation was about the same and I
again got 1 handful. One of these was
an adult ♀ banded July 20 with the
banded leg sore and inflamed. The other
5 were unbanded - 1 adult ♀, 3 adult ♂♂,
and 1 young ♂. After daylight I entered
the attic once more, and not a bat was
in sight. All the bats caught during
the night I banded and released at this
time.
- Oct. 20 We entered the attic in late afternoon.
Enough bats were out in the open in a
cluster on the rafters so that we could
get a handful (15). Many more could
be seen in the roof, and also *Tadarida*.
11 were new (9 ♂♂, 2 ♀♀) and were banded
on the wing and released. 4 were returns
and the banded leg was sore and festered
in every case. 1 was a ♂ banded July 14 as
an immature, 1 was a ♀ banded July 9 as
an immature, 1 was a ♀ (one of 2 numbers
used July 14), and one a ♂ on which
the number could not be made out at all.

H.C. Ramag
1946-7

Antrozous pallidus

11.

Nov. 17 1/2 mi. E Pope Valley P.O., Napa Co., Calif.

We could see both Antrozous and Tadarida in the roof of the schoolhouse but could not get at them.

3 mi. SE Calistoga, Napa Co., Calif.

In the barn where we have found Antrozous several times, there was 1 ♂ behind the barn door where I found about 50 July 9 and more July 14. I banded and released it.

Nov. 24 Los Altos, Santa Clara Co., Calif.

In the barn at the Karty ranch where we were told there had been large numbers of bats during the summer, there were piles of large droppings and some legs of Stenopelmatus indicating that probably the bats were Antrozous.

April 19

3 mi. SE Calistoga, Napa Co., Calif. (Saviez Ranch)

Behind the barn door were 3 Antrozous. In the attic, in the crack along the top of the end wall, Dr. Benson got 4, and several escaped. We returned to the door and found 1 more Antrozous and a Tadarida. Altogether we got 8 ♂♂ which we banded + released.

One was a return from July 14, 1946.

April 20

1/2 mi. E Pope Valley P.O. Of the many bats in the schoolhouse attic roof we got 39 Antrozous and 3 Tadarida which were out in the open.

M. Koford
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Antrozous pallidus

12.

April 20

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

26 were unbanded (23 ♀♀, 3 ♂♂) and 13 were banded (9 ♀♀, 4 ♂♂). The legs of banded ones were badly inflamed and we moved all the bands to the wing. Where numbers were illegible we replaced bands. We used #0 bands, the only kind we had with us, although they were too small. When released outside the ~~the~~ *Antrozous* usually circled the house a few times and flew back into the attic. The banded ♂♂ were 2 banded July 20, 1946 as immatures, one Oct. 20, and one illegible. The ♀♀ were 3 banded as adults July 14, 1946, 3 (+ 2 doubtful) as immatures July 14, one as an adult July 19, 1 (doubtful) as an adult July 20, and one illegible.

May 24

Cold Creek, 8 mi. NE Ukiah, Mendocino Co., Calif.

I picked up a flattened mummified ♂ beside the road on the bridge over Cold Cr.

June 18

3 mi. E Cholame, San Luis Obispo Co., Calif.

In the lower part of a tank house at an abandoned farm there were a number - we could not determine how many - of females and grown young in the space provided by a box-type molding around the structure. This space was accessible only from the inside through a crack

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1947

Antrozous pallidus

June 18 3 mi. E Cholame, San Luis Obispo Co., Calif.
about $1\frac{1}{2}$ " wide. The building was about
15' square at the ground and had one door.
The one young which we were able to get
hold of was unable to fly although
apparently full-grown.

$\frac{1}{2}$ mi. W, 2 mi. S Simmler, San Luis Obispo Co., Calif.

In a rock formation at the edge of the
plain was a colony of ♀♀ & young. They were
in a cave ^{near} ~~at~~ the base of one rock in a
vertical crack extending upward from
the back of the cave. The cave was about
10' high, 15' across, & 6' deep. As we arrived,
just before dark, the bats were leaving
this crack. All those we caught (8) were
lactating adults. We also got 4 *Tadarida*
coming out of the same crack. We could see
at least 100 young (presumably all young)
left in the crack. We stayed until about
an hour after dark and watched many
Antrozous fly in and out, sometimes
lighting briefly on the wall but we
could not determine for sure that any
of them were staying in the crack. Apparently
the nearest water is a reservoir about 1 mi. away.

M. K. Ford
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Antrozous pallidus

14

Aug. 24

2 mi. SW Vacaville, Solano Co., Calif.

At the old "Dixon house" on the Pleasant Valley Rd. about $\frac{1}{4}$ mi. beyond where it leaves the old highway, we found a large number - we couldn't tell how many - of Antrozous and some Tadarida under the shingles of the roof at the north end of the house inside the boxed-in eaves and along the ridgepole. Those we caught and banded were 59 ♀♀ and 15 ♂♂. Some were more grayish and probably young of the year. but I wasn't sure in most cases. The ♂♂ were apparently in breeding condition, including young of the year, the testes being very large and conspicuous. The end of the penis in many appeared swollen and irritated.

Vacaville In an old two-story shed on the north side of Mason St. just west of Elizabeth we located another Antrozous colony which we didn't try to get at. These bats also were in the boxed-in eaves, at the south end of the shed.

Aug. 26

Contra Costa Co. On the porches of the schools at Alamo and Danville there have been bats, apparently Antrozous, hanging at night.



M. Koford
1947

Antrozous pallidus

Aug. 26 2 mi. S Livermore, Alameda Co., Calif.

Through Edward Carson, an exterminator employed to get rid of bats in the county buildings, we found an *Antrozous* colony in a barn on the county farm here.

The barn is a large two-story one and the bats are in the boxed in eaves and perhaps in other parts of the roof. Carl chased out two, one of which ~~he~~ caught - a ♂ with testes ^{about 1/4 inch,} not so large as those at Vacaville Aug. 24. They plan to use DDT spray to eliminate the bats.

Arroyo del Valle Sanitarium, 4 mi. S Livermore

The same exterminators showed us several places in the sanitarium buildings where they are trying to get rid of bats. In one crack where the stucco wall is kept quite warm by the chimney they sprayed DDT and drove out 1 *Antrozous* which we didn't catch. On one porch there were apparently a large number of *Antrozous* inside the molding which they entered through a flicker hole in the corner. They have not yet decided how they will eliminate these.

Aug. 27 Berkeley Mr. Richard P. Maynard of Millbrae, ^(Aug. 24) San Mateo Co., brought in 3 ♀♀ & 2 ♂♂ which he shot as

(about like Livermore specimen Aug. 26) they hung on the porch of the Taylor Blvd. School. They may be all young of the year. The ♀♀ show no sign of having lactated. The testes of the ♂♂ are not so large as those at Vacaville Aug. 24.



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1947-8-9

Antrozous pallidus

- Sept. 13 Paso Robles Cr., 1100', $\frac{1}{2}$ mi. S + 6 mi. W Templeton, San Luis Obispo Co.
at the York Mountain Winery they told us that *Tadarida* (which we saw there) were very common and that there were also bats with large ears which ate "potato bugs."
- Mar. 5 + 23 $\frac{1}{2}$ mi. E Pope Valley P.O., Napa Co., Calif.
See journal
San Juan Cr., 1500',
April 25 4 mi. E + $\frac{1}{2}$ mi. N La Panza, San Luis Obispo Co., Calif.
In a crevice behind a rock slab on the cliff face, reached from below through a horizontal opening, about 12' from the ground, we could see a number of *Antrozous*. There was a pile of droppings under the crack.
- Aug. 24 1 mi. W Isabella, 2500', Kern Co., Calif.
Carl caught one ♂ in a mine tunnel with water in the bottom at 1:30 a.m.
- April 14 11 mi. S + 1 $\frac{1}{2}$ mi. E Borego, San Diego Co., Calif.
In a garage dug into the hillside, in which there were no bats before dark, Carl found a tight cluster of 11 *Antrozous* after dark. They didn't try to fly and had to be pulled off. There were 6 ♀♀ - not visibly pregnant - and 5 ♂♂ - one which Pearson examined April 19 had motile sperm. When Carl went back a little later there was one lone *Antrozous* which he didn't catch.



M. Koford
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17

Antrozous pallidus

June 29

Aetna Springs, Napa Co., Calif.

The people here are being greatly annoyed by Antrozous night-roosting on the porches and in the dining hall. There were clusters at night in the kitchen attic along the ridge pole, seeming to increase in numbers up to midnight when we left. Some were quite close to the young Corynorhinus which stayed in the attic at night. There were none here in the daytime when the attic is occupied by a colony of Corynorhinus. As we sat in the attic in the dark we could hear the Antrozous squeaking and chewing.

July 1

Pope Valley, Napa Co., Calif.

T. Z. Neil sent us bands from 3 Antrozous, 2 banded Apr. 20, 1947, and one July 20, 1946 all as adult ♀♀ (46-26152, 161, 166) ^{at the Pope Valley School.}

They were found among bats killed in the attic of the Pope Valley Store. He has 4 more frozen bats with bands.

July 22

We stopped at the store and talked to Mr. Neil. He gave me the other 4 bats he had saved: 46-15477, 15483, 26159, 26173. ^{of 20/46 ← same} ^{Apr 20/47 ← same}

He said there may have been more banded bats among those killed as he had not examined all of them.



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18

Antrozous pallidus

Aug. 2 Angwin, Napa Co., Calif.

At the old winery, there was a large colony of Antrozous in the wooden building in the same place we found them before — at the end of the ridgepole in the space between the roof boards and shingles. When I pounded on the outside of the shingles some of them flew out inside the barn and Krutzsch got 2 or 3, all adult ♂♂.

Aug. 26 1.4 mi. by road ($\frac{45}{101}$) N San Benito - Monterey Co. line, ^{San Benito, Calif.}

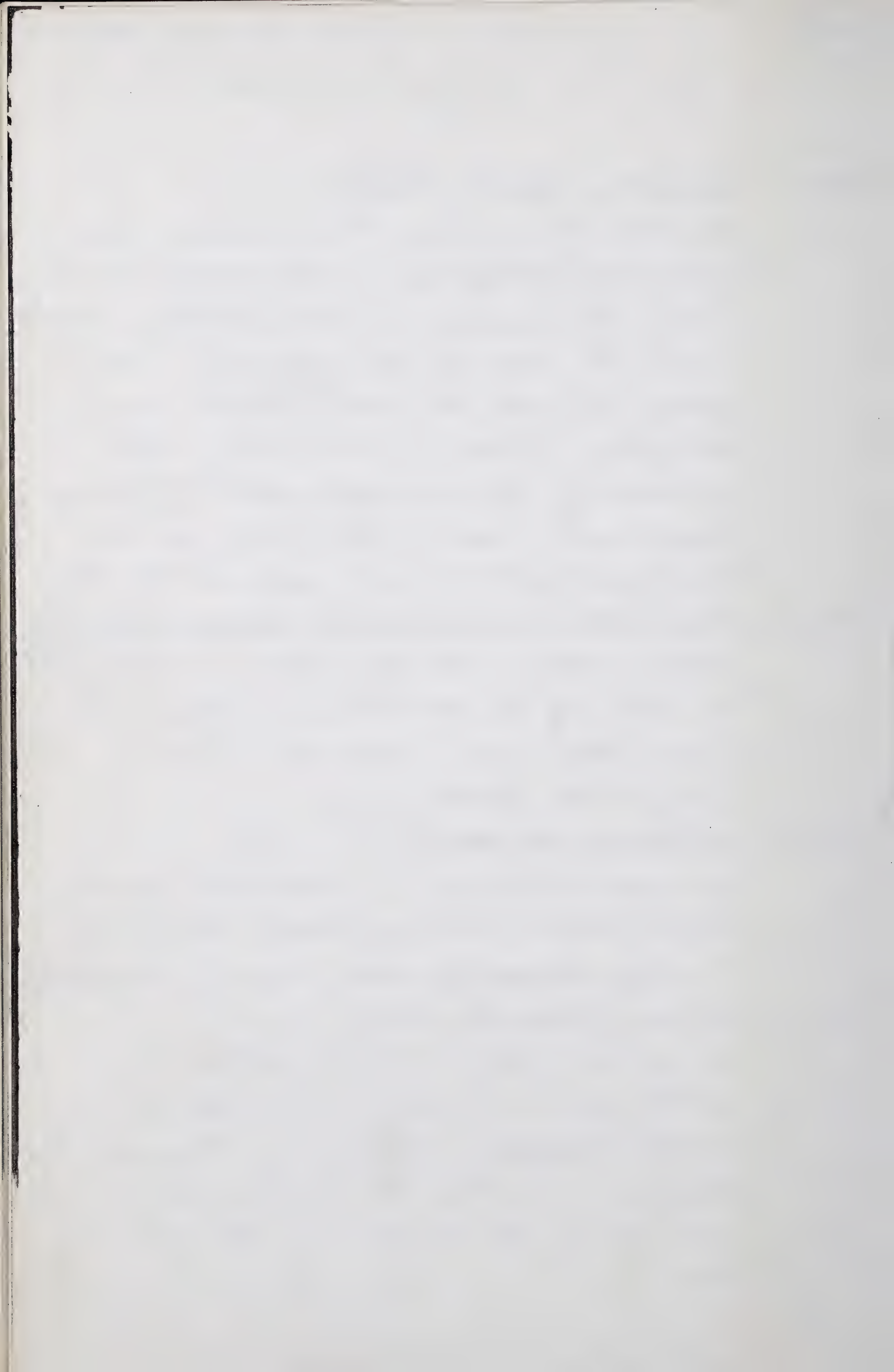
Anita took one adult ♂ from a colony in the attic of a schoolhouse. There were many dead ones — adults and young — lying on the floor.

Aug. 25 Soledad, Monterey Co.

In a mine tunnel in Stonewall Canyon which Radd told us about was a pile of large droppings and legs of Stenopalmatus.

Nov. 18 Olema, Marin Co., Calif.

In a barn half a block south of the school was a large pile of droppings and several Antrozous mummies. The people have started using the barn again but it was not being used at the time the bats were there.



Ramage
M. H. H. H.
1946

(1)

Tadarida mexicana - banding record

July 14 1/2 mi. E Pope Valley P.O., Napa Co., Calif.

46-15127 ♀ ad.

8 " "

9 ♂ ad.

30 " "

1 " "

2 " "

3 " "

4 " "

5 " "

6 " "

7 " "

8 " "

9 " "

40 " "

1 " "

2 " "

3 " "

4 " "

July 16 Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co.

15156 ♀ juv.

7 " "

8 " "

9 " "

dead by Aug. "

60 " "

"

1 " "

2 " "

3 " "

"crack I"

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Tadarida mexicana

July 16 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co.

46-15164 ♀ juv. dead by Aug. 11

5 " "

6 " "

7 " " dead by Aug. 11

8 " "

9 " " dead by Aug. 11

70 " "

1 " "

2 " "

3 " "

4 " " dead by Aug. 11

5 " "

6 " "

7 " "

8 " "

9 " "

80 " "

1 " "

2 " "

3 " "

4 " " dead by Aug. 11

5 " "

6 " "

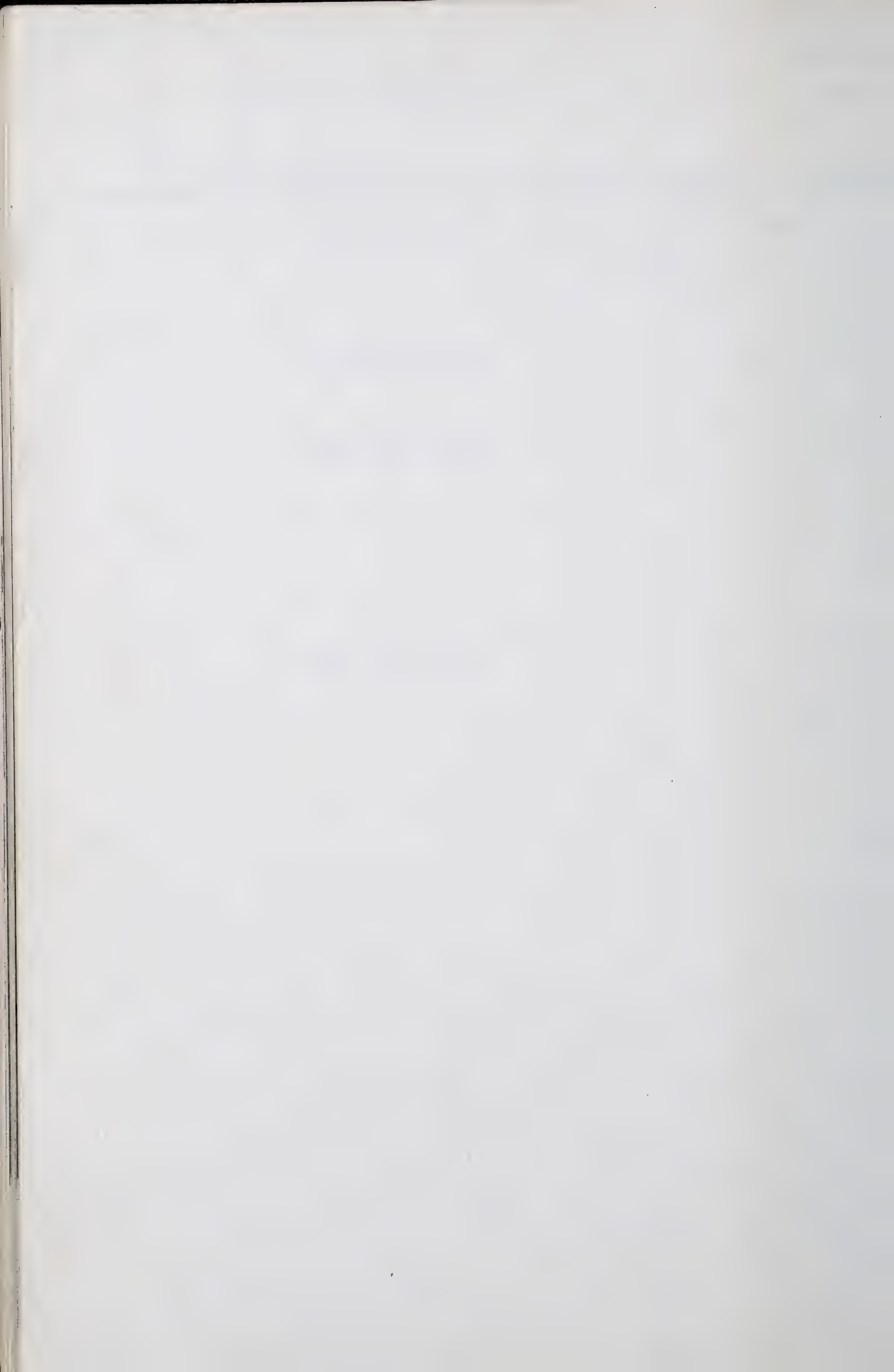
7 " "

8 " "

9 " "

90 " "

crack 3



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Tadarida mexicana

July 16 Tuolumne R. 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.

46-15194 ♀ juv.

2 " "

3 " "

4 " "

5 " " dead by Aug. 11

6 " "

7 " "

8 " "

9 " "

200 " "

1 ♂ juv.

2 " "

3 " "

4 " "

5 " "

6 " "

7 " "

8 " " dead by Aug. 11

9 " " "

10 " "

1 " "

2 " " dead by Aug. 11

3 " "

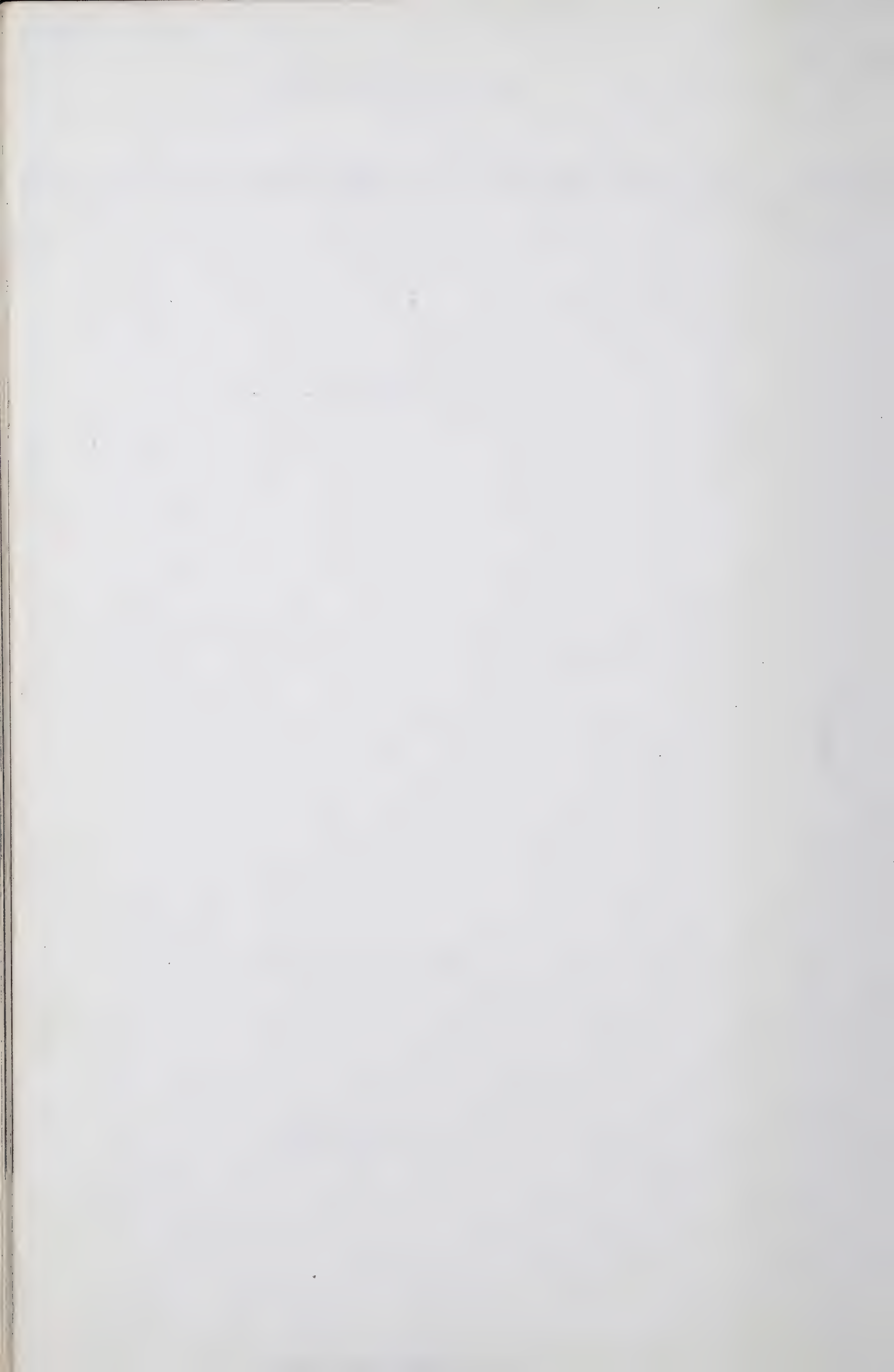
4 " "

5 " "

6 " "

7 " " dead by Aug. 11

↑
"crack"
↓



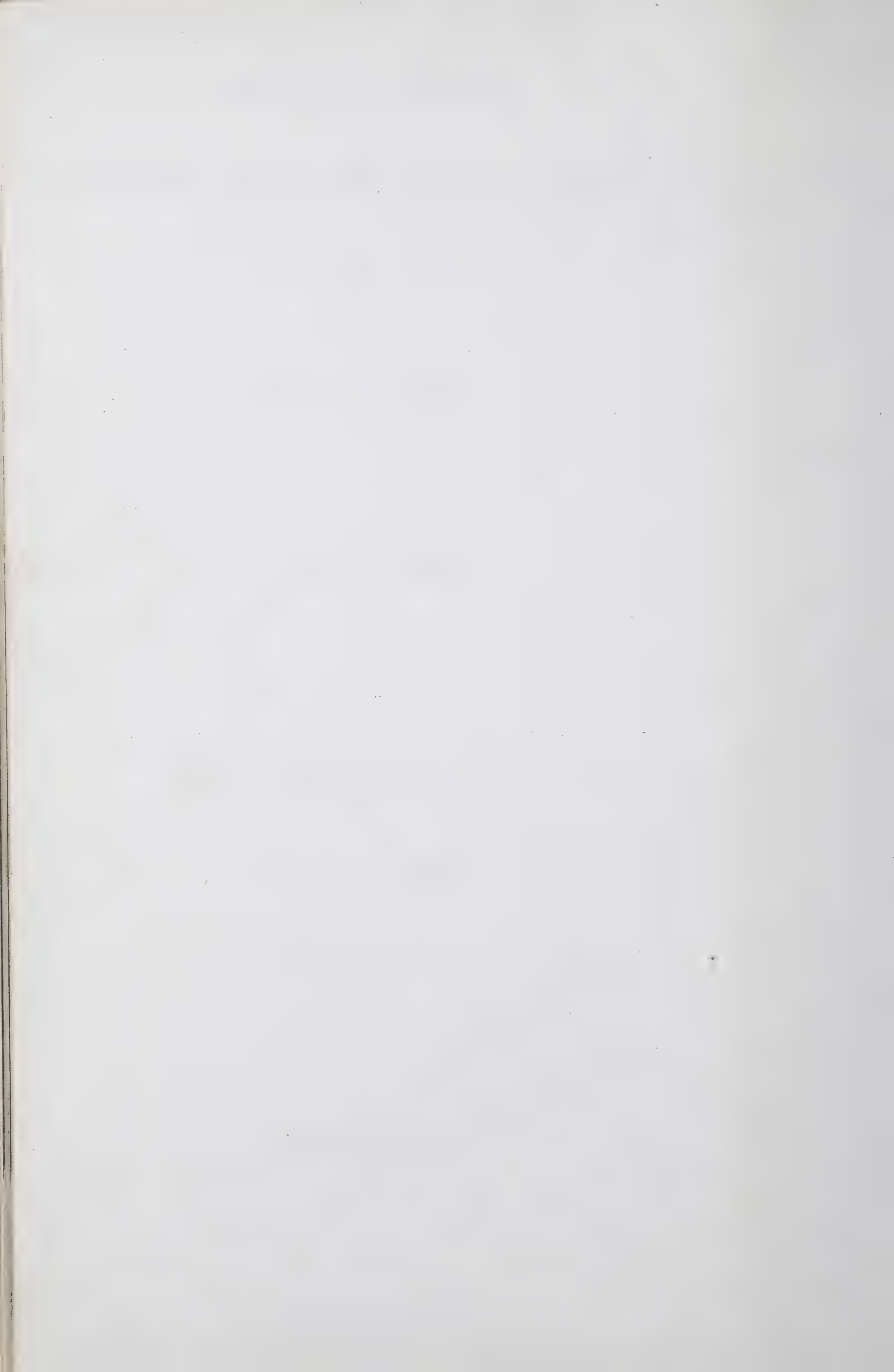
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Tadarida mexicana

July 16 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co.

↑ "crack I" ↓

46-15218	♂ juv.	
9	" "	dead by Aug. 11
20	" "	
1	" "	
2	" "	dead by Aug. 11
3	" "	
4	" "	
5	" "	
6	" "	dead by Aug. 11
7	" "	
8	" "	
9	" "	
30	" "	
1	" "	dead by Aug. 11
2	" "	
3	" "	dead by Aug. 11
4	" "	
5	" "	dead by Aug. 11
6	" "	
7	" "	
8	" "	
9	" "	dead by Aug. 11
40	" "	"
1	" "	
2	" "	
3	" "	dead by Aug. 11
4	" "	"

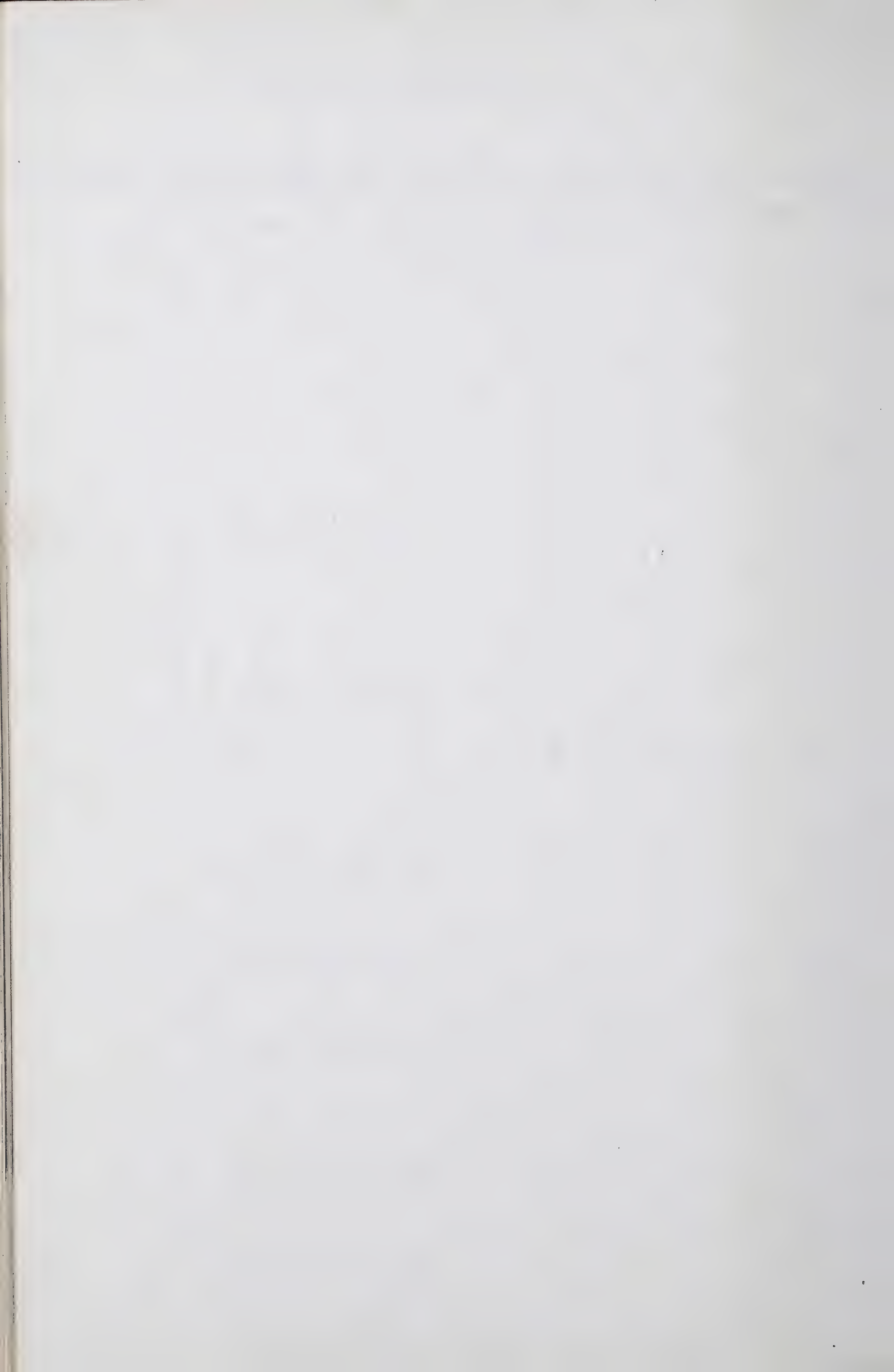


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Tadarida mexicana

July 16 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co.

"crack I"	46-15245	♂ juv.	dead by Aug. 11
	6	" "	"
	7	" "	
	8	" "	
	9	" "	
	30	" "	
	1	" "	
	2	" "	dead by Aug. 11
	3	" "	
	4	" "	
"crack III"	5	♀ juv.	
	6	" "	dead by Aug. 11
	86	♂ juv.	
	7	" "	
	8	" "	
	9	" "	dead by Aug. 11
	90	" "	
	1	" "	dead by Aug. 11
	2	" "	
	3	" "	dead by Aug. 11
	4	" "	
	5	" "	
	6	" "	dead by Aug. 11
	7	" "	
	8	" "	dead by Aug. 11
	9	" "	
	300	" "	



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(6)

Tadarida mexicana

July 16 Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co.

46-15301 ♂ juv.

2 " " dead by Aug. 11

3 " "

4 " "

5 " " dead by Aug. 11

6 " " "

7 " "

8 " " dead by Aug. 11

9 " "

10 " "

1 " " dead by Aug. 11

2 " " died at banding

3 " "

4 " "

5 " "

6 " "

7 " "

8 " "

9 " "

20 " " dead by Aug. 11

1 " " "

2 " "

3 " " dead by Aug. 11

4 " " "

5 " " "

6 " "

7 " " dead by Aug. 11

"crack III"



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Taclarida mexicana

July 16 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co.

↑ "Crack III" ↓	46-15328	♂ juv.	
	9	"	"
	30	"	"
	1	"	"
	2	"	dead by Aug. 11
	3	"	"
	4	"	dead by Aug. 11
	5	"	"
	6	"	"
	7	"	"
	8	"	"
	9	"	"
	40	"	"
	1	"	dead by Aug. 11
	2	"	"
	3	"	dead by Aug. 11
	4	"	"
	5	"	"
	6	"	"
	7	"	"
	8	"	dead by Aug. 11
	9	"	"
	50	"	"
	1	"	"
	2	"	"
	3	"	"
	4	"	"



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Tadarida mexicana

July 16 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co.

↑ 46-15355 ♂ juv.

6 " "

7 " "

8 " " dead by Aug. 11

9 " "

60 " " dead by Aug. 11

1 " "

2 " "

3 " "

4 " "

5 " " dead by Aug. 11

6 " "

7 " "

8 " " dead by Aug. 11

9 " "

70 " "

1 " "

2 " "

3 " "

Aug. 11

4 " "

dead by Aug. 11

5 " "

6 " "

7 " "

8 " "

9 ♀ juv.

80 ♂ juv.

1 ♀ juv.

Crack III



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Tacharida mexicana

July 16 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.

↑	46-15382	♂ juv.	dead by Aug. 11
	3	" "	"
	4	" "	
	5	" "	dead by Aug. 11
	6	" "	
	7	" "	
	8	" "	
	9	" "	
	90	" "	
	1	♀ juv.	
" Crack III	2	" "	dead by Aug. 11
	3	♂ juv.	
	4	" "	
	5	" "	
	6	♀ juv.	
	7	♂ juv.	dead by Aug. 11
	8	♀ juv.	
	9	♂ juv.	dead by Aug. 11
	400	♀ juv.	
	1	" "	
↓	2	" "	
	3	" "	
	4	" "	
	5	" "	
	6	" "	
	7	" "	
	8	" "	



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(10)

Tadarida mexicana

July 16 Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co., Calif.

↑
"crack III"
↓

46-15409 ♀ juv.

10 " "

1 " "

2 " " dead by Aug. 11

3 " "

4 " " dead by Aug. 11

5 " " "

6 " "

7 " "

8 " "

9 " "

20 " " dead by Aug. 11

1 " "

2 " "

3 " " dead by Aug. 11

4 " " "

5 " " "

6 " "

7 " "

8 " "

9 " "

30 " "

1 " "

2 " "

3 " "

4 " " dead by Aug. 11

5 " "

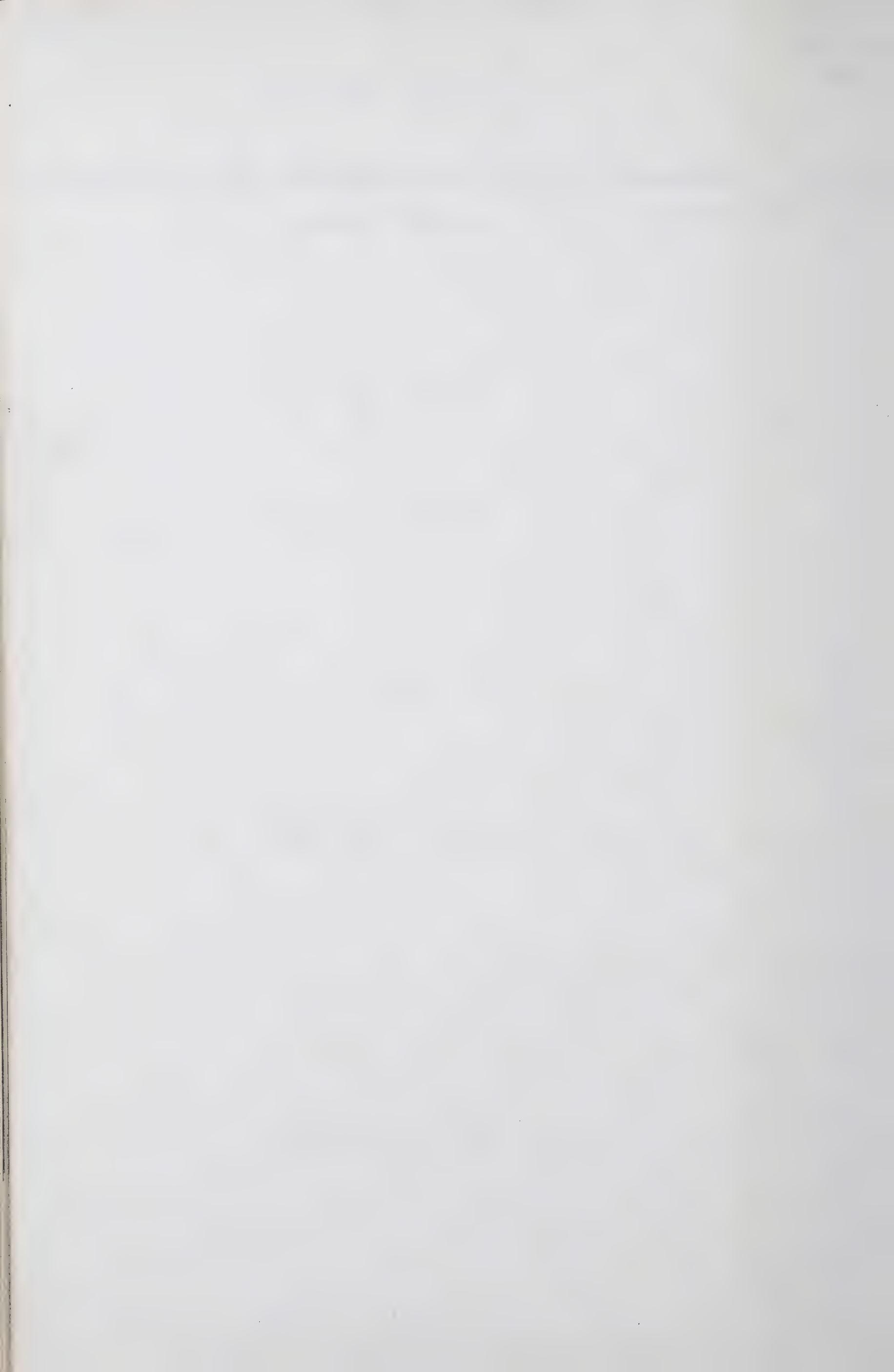


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Tadarida mexicana

July 16 Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co.

"Crack III"	46-15436	♀ juv.	dead by Aug. 11
	7	" "	"
	8	" "	
	9	" "	
	40	" "	dead by Aug. 11
	1	" "	"
	2	" "	
	3	" "	dead by Aug. 11
	4	" "	
	5	" "	
	6	" "	
	7	" "	
	8	" "	
	9	" "	
	50	" "	dead by Aug. 11
	1	" "	"
	2	" "	
	3	" "	
	4	" "	
	5	" "	
	6	" "	
	7	" "	dead by Aug. 11
	8	" "	
	9	" "	
	60	" "	
	1	" "	
	2	" "	



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Tadarida mexicana

July 16 Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co., Calif.

"crack III" { 46-15463 ♀ juv.
4 " "
5 " "
"crack II" { 6 ♂ juv.
7 ♀ ad.

Aug. 11 { 16099 ♀ im.
"crack II" { 100

I { 1 to 6 ♂♂ im
7 to 12 ♂♂ im
13 to 6 ♀♀ im
III { 7 to 8 ♂♂ im
etc. { 9 to 38 ♀♀ im 38 died
~~26 to 38~~
39 to 51 ♂♂ im

Nov. 4 Berkeley, Alameda Co. coll. on 74th St. released at LSB
451 ♂
2 ♂

Nov. 16 Yountville, Napa Co.
634 ♀ released at Berkeley Dec. 5

Oct. 20 3 mi. SE Clear Lake Oaks, Lake Co.

436 ♂

Nov. 30 Kelseyville, Lake Co.

675 ♂

6 ♀

7 ♂

8 ♀

9 ♀



M. Ramage
1946-7

Tadarida mexicana

Nov. 30 Kelseyville, Lake Co., Calif.

46-16680-2 ♂♂

3 ♀

4-92 ♂♂

93-5 ♀♀

Dec. 1 6 1/2 mi. SE Wilbur Springs, Colusa Co. (Bridge 1536)

701 ♀

2 ♂

3 ♀

4-7 ♂♂

8 ♀

Feb. 7 1 1/2 mi. above Topock R.R. bridge, San Bernardino Co.

13-5 ♀♀

6 ~~♂~~-22 ♂♂

Feb. 23 Berkeley, Alameda Co. coll. Oxford Apartments
Released Feb 24 LSB 11:00am

~~Feb. 23~~ 23 ♀

Feb. 27 Sacramento coll. by Longa necker
released at Berkeley Mar. 5 (LSB in ev.)

4 ♀

March 25 Berkeley

813-7 ♀♀

8 ♂ April 7 released at LSB again

March 29 1 mi. NE Sulphur Bank Mine, Lake Co.

9 ♂ wallpaper April 14, 1949 by Pearson - only the 9 legible
but probably this bat. Released at Berkeley Apr. 18
with # C-161755.

April 7 Berkeley released Apr. 10 10:30pm LSB

949 ♂

50 ♀

"

"

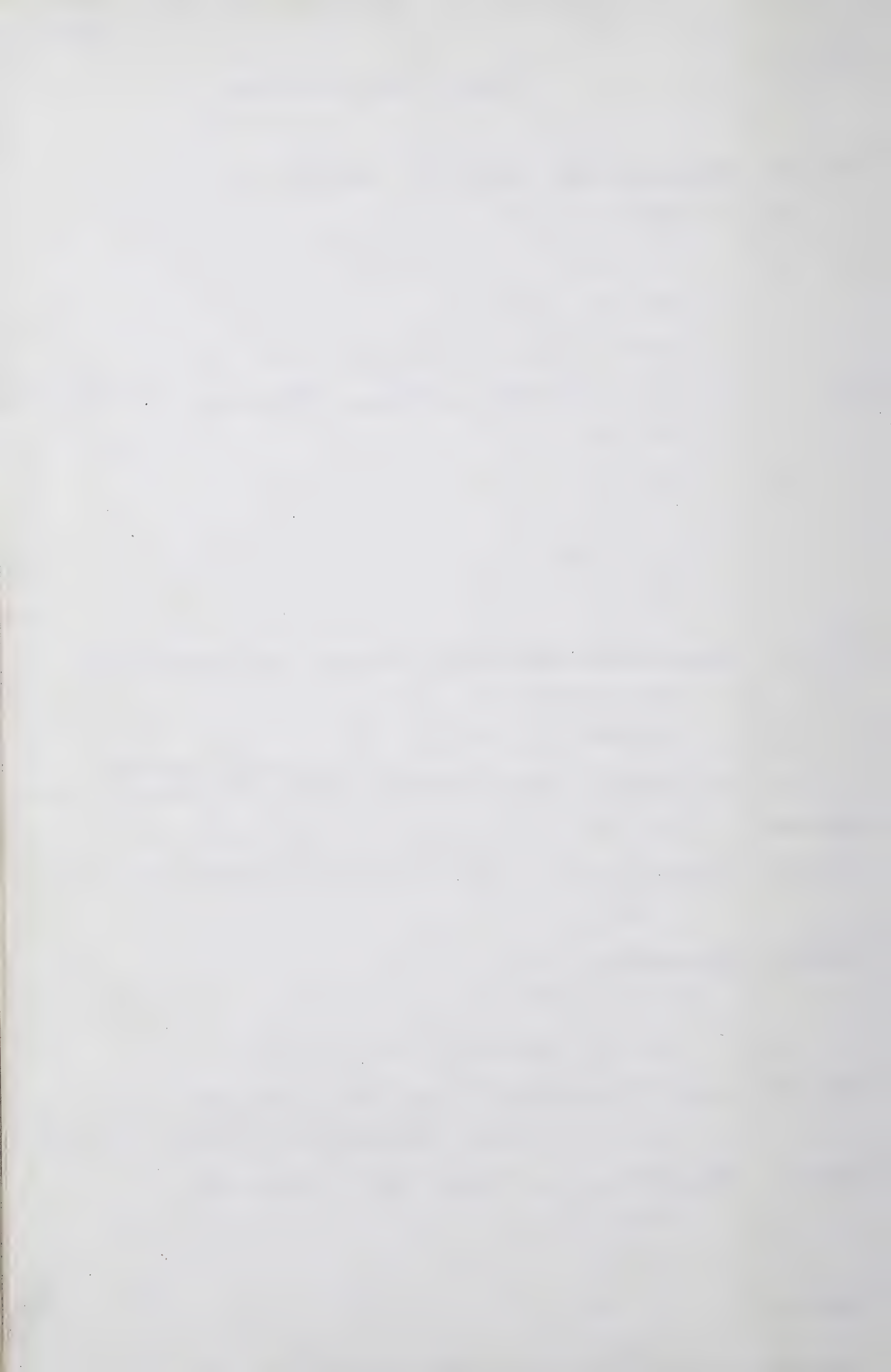
"

"

April 12 1 ♂

2 ♀

April 26 3 ♀



M. Koford
1947

(14)

Tadarida mexicana

April 19 3 mi. SE Calistoga, Napa Co., Calif.

46- 26008 ♂

April 20 Lucerne, Lake Co. (dance pavillion)

140 ♀

148- 1/2 mi. E Pope Valley P.O., Napa Co.

48 ♂

54 ♀

5 ♀

May 4 2 1/4 mi. SSE Willits Springs, Colusa Co.

457 ♂

Aug. 20 Tuolumne R., 900'; 2 1/2 mi. ESE Jacksonville, Tuolumne Co.

47- 1 to 85 ♀♀ mostly young adult: 10, 11, 68, 59, 53, 37 ? 22 - white spot on belly

86 to 152 ♂♂ mostly young 99 - white short hair on top of head
127 Aug 18 149 found 4 mi. SE Modesto

153 ♂ im released at Berkeley Aug 21

Aug. 24 3 mi. SW Vacaville, Solano Co.

230 to 235 ♀♀

Nov. 11 Berkeley, Alameda Co.

237 ♀

8 ♀

9 ♀

40 ♂

1 ♂

2 ♀

3 ♂ ?

4 ♂ ?

Nov. 14 5 ♀

6 ♀

7 ♂

M. Koford
1948-9

Tadarida mexicana

Jan. 29 Berkeley, Alameda Co.

47 249 caught at Hearst Mining Bldg. released 123 Purdue
~~Feb.~~ released Feb. 2 251 " " " " " "
 released Feb. 3 2 " " " " " "

April 11 Merced R., 5 mi. E Newman (Stanislaus Co.) in Merced Co.

42-138101 to 111 ♂♂

April 15 Berkeley, Alameda Co.

114 ♂

5 ♀

June 14 41-167900

Oct. 1 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

42 ♀

3 ♀

4 ♀

Oct. 20 1.3 mi. SE Inverness, Marin Co.

5 ♀

6 ♀

7 ♀

8 ♂

9 ♂

50 ♀

1 ♂

April 14 1 mi. NE Sulphur Bank Mine

C-161755

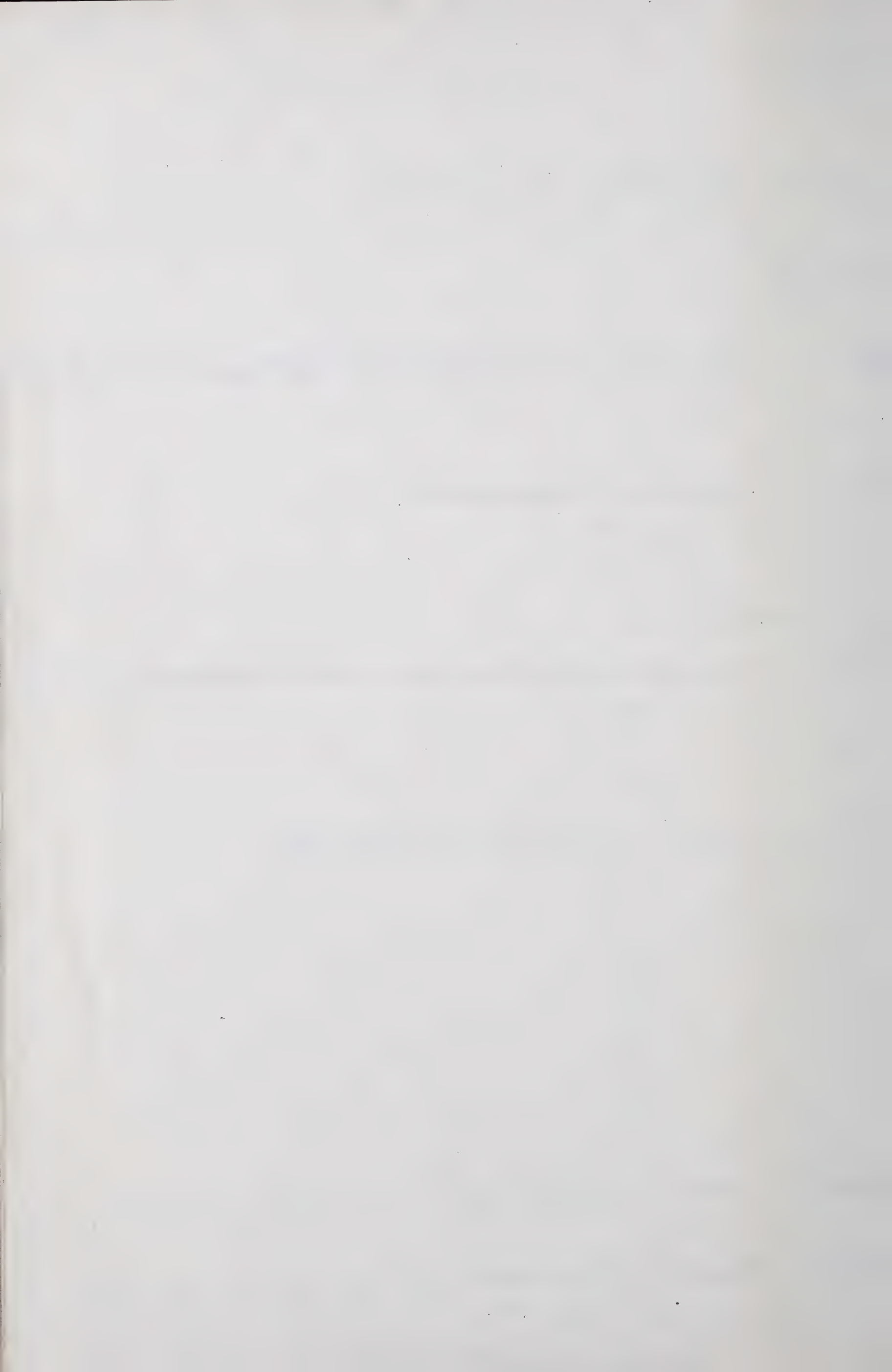
changed from 46-16819 (probably) & released Apr. 18 at Berkeley

Oct 26 Berkeley, Alameda Co.

49-123170 to 211 ♀♀

204 Mar 30 1950 San Lorenzo alive

301 to 306 ♂♂



M. Koford
1950

Tadarida mexicana

April 18 1 1/4 mi. E jct. N. & Middle Fks. American R., 700', Eldorado Co.

49-123539 ♀

40 ♀

m.c. Ramage
1945

6.

Tadarida mexicana

May 26

5 mi. S Hayward, Alameda Co., Calif.

Zillian Seeliger and I stopped at about 6:00 PM to ask a farmer about bats. He said that he had them around the windows of his large barn. He took us inside and found 1 ♂ Tadarida. It was in a space about $\frac{3}{4}$ " wide and 2" deep.

June 2

Old Fort Tejon, Kern Co., Calif.

We heard squeaking and saw bats crawling in the space between the 12" boards supporting the roof and the corrugated iron roof. By hitting the boards and pressing them against the metal we were able to kill 4 Tadarida and at the same spot we caught 4 Eptesicus fuscus with forceps as they crawled past the spaces between boards. None of the Eptesicus, however, were killed, so they may not have been under the very same board as the Tadarida. About 10 bats escaped from this colony while we captured these 8. This spot was on the outside of the building (in the eave) ^{about a 2' eave} on one end next to the corner. No other Eptesicus or Tadarida were found in the building although there was a colony of hundreds of Myotis volans between the boards and the metal roofing on the

M.C. Ramey
1945

7.

Tadarida mexicana

June 2 Old Fort Tejon, Kern Co., Calif.
inside of the building.

June 3 1 mi. NW Old Fort Tejon, Kern Co., Calif.
In an old stone power house, also with
a corrugated sheet-iron roof, we
collected ~~1~~ Tadarida out of a colony
of ^{perhaps} several hundred. They seemed
to be in the ends between the walls
and the roof, while along the ridge
pole were Myotis yumanensis in large
numbers and in little spaces between
the beams and the roof were a few
scattered Myotis californicus. One
Myotis volans was also shot in this
building.

June 4 Old Fort Tejon, Kern Co., Calif.
We visited the fort again and once
more chased out a colony of bats
from the same corner. We were able
to catch only 2 - both Tadarida, although
Walt thought he saw one Eptesicus fly.
Tuolumne R., 900 ft., 2 1/2 mi. ESE Jacksonville,
Tuolumne Co., Calif. (under bridge)

July 23

Several hundred young Tadarida and a
few young Myotis yumanensis were in
cracks under the bridge, mainly in
horizontal spaces about an inch wide
and a foot deep, but some in more

n.e. Ramage
1945

8.

Tadarida mexicana

July 23

Tuolumne R., 900 ft., 2 1/2 mi. ESE Jacksonville,
Tuolumne Co., Calif. (under bridge)
open vertical spaces as much as 6" wide.
In similar cracks, somewhat separated
from those containing the young, was
a crack with about 10 adult Tadarida,
mixed ♂'s & ♀'s, and one with an
about equal number of adult Myotis.

July 8

Pope Valley School, 1/2 mi. E Pope Valley P.O., Napa Co., Calif.
In the attic, and in the space between
the metal roof and the wooden boards
supporting it, were hundreds of
female Antrozous with young, and
several hundred Tadarida.

Aug. 24

The bats were still present in the
school attic. The Antrozous seemed
easier to catch than on our previous
visit, while the Tadarida were still
very wary, only showing themselves
for a few seconds as they scurried
across the spaces between the boards
of the roof or wall.

"

3 mi. SE Calistoga, Napa Co., Calif.

(in barn ~~attic~~ at Saviez Ranch)

One ♂ was knocked down while we
were ~~catching~~ knocking down Antrozous
which had flown out of a crack
where we had discovered them. The

M.C. Ramage
1945

9.

Tadarida mexicana

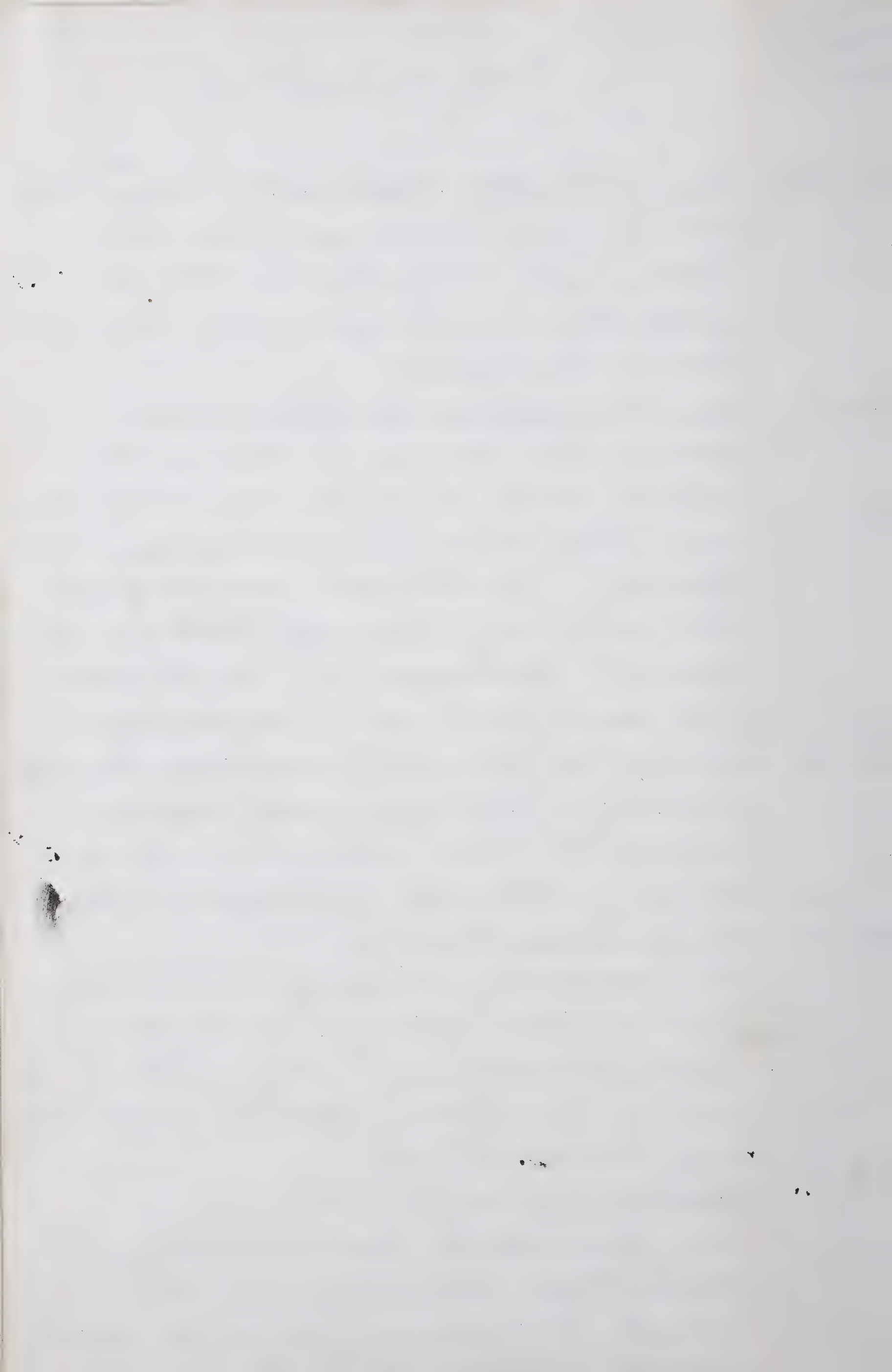
Aug. 24 3 mi. SE Calistoga, Napa Co., Calif. (in barn at Saviez Ranch)
place from which it came was not determined, although the odor of Tadarida was stronger in the barn than that of Antrozous.

Sept. 9 2½ mi. ENE Pescadero, San Mateo Co., Calif.
Under a loose section of wall on the outside (south side) of an abandoned house was a large colony of mixed Antrozous and Tadarida. We obtained a number of each, but saved only 1 Tadarida (♂) (both sexes were present) & 2 Antrozous (♂, ♀). In the attic of the same house was 1 Corynorhinus.

Sept. 15 Silver Cr., 900', 7½ mi. ESE Panoche, San Benito Co., Calif.
A colony of Antrozous and Tadarida occupied the crack from which Benson & Dalquest collected 19 Eumops in June.

Sept. 17 Oxalis, Fresno Co., Calif.
The warehouse which at an earlier date housed many hundreds of Myotis yumanensis along with several hundred Tadarida now had only Tadarida (♂♂ & ♀♀).

Snelling, Merced Co., Calif.
At a farm on the road to Snelling from Merced there were Tadarida on the outside of the house behind a molding above the porch, and one above the



M.C. Ramage
1945

Tadarida mexicana

10

Sept. 17

Snelling, Merced Co., Calif.
doorway of a shed. At Snelling, we found one on the floor of the dining room of the C.O.C.F. Hall.

La Grange, Stanislaus Co., Calif.

They were in various places on the outsides of houses in town and in the cracks under a bridge over the Tuolumne R. $2\frac{1}{2}$ mi. from town. At two abandoned houses between La Grange and Chinese Camp we found them, once under a paper on the outside of the house in the sun during the hot part of the day, and again under a board on the outside of the house.

Tuolumne R., 900 ft., $2\frac{1}{2}$ mi. ESE Jacksonvill, Tuolumne Co.

There were not nearly the numbers of *Tadarida* that were present on July 23, partly perhaps because there have been workmen repairing the bridge recently. In several of the cracks were *Myotis yumanensis*.

Sept. 12

Carmel Valley, Monterey Co., Calif.

At a ranch near the mouth of the Carmel Valley we were shown a dead *Tadarida* which had flown into a room at night and they had killed.

M.C. Ramage
1945

11.

Tadarida mexicana

Sept. 19

Murphy, Calaveras Co., Calif.

Odor in Catholic Church.

Sept. 23

Bear Creek, 6 1/2 mi. SE Willbur Springs, Colusa Co., Calif.

(Bridge 1537 on Highway 16)

S.B. Benson
9495

Most of the suitable spaces under the bridge contained Tadarida, and we collected 1 ♂. There were piles of droppings in spots out away from the cracks where some kind of bats apparently hung on the beams in large numbers at night. One crack contained Myotis yumanensis (♀♀).

Oct. 15

Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.)

There was one Tadarida along with a Myotis yumanensis in a crack under the stairs in the basement - not collected.

Oct. 16

1 Tadarida in a corner tile of the west pergola - not collected.

Oct. 19

1 Tadarida in a corner tile of the north pergola - not collected.

Nov. 28

Several Tadarida in the tiles on the pergolas but no Myotis. No Tadarida inside. This time I looked under the drain around the east court where I haven't looked for some time, and there were at least several hundred Tadarida here. I put up 4 - 2 ♂♂, 2 ♀♀ - no sperm found and testes very small. Bob Storer banded

J. C. Ramage
1945-6

12.

Tadarida mexicana

- Nov. 28 Berkeley, Alameda Co., Calif. (Hearst Mining Bldg.)
11 and released them at L.S.B. (4♂♂, 7♀♀).
I put 6 of them in a box near the
freezing coils in the fur room.
- Dec. 2 Walter Springs, 4½ mi. NE Pope Valley P.O., Napa Co., Calif.
In the attic where we collected the
Eptesicus July 8 we heard Tadarida in
the walls at the ends of the building
but could not get at them.
- Dec. 8 Berkeley
^{2♂♂ 3♀♀}
5 of the bats in the fur-room are still
alive. The death of the 6th was
obviously caused by an injury.
- Dec. 26 all 5 dead. All still very fat except 1♀.
- Feb. 14 The Tadarida are still present in the court
of the Miner Bldg., but no bats anywhere
else in the Bldg. 27 collected (11♀♀ + 9♂♂
shipped to Griffin; 3♀♀, 3♂♂ banded
& released at L.S.B.; 1♀ already banded
released at L.S.B.)
- April 10 A thorough search of the building (all the places
where we have found bats including the
"Tadarida - court") disclosed one ♀ Myotis
yumanensis but no Tadarida.
- July 9 ½ mi. E Pope Valley P.O., Napa Co., Calif.
Entering the attic of the Pope Valley School
just at dusk I saw one adult
Tadarida and several adult Antrozous,

M.C. Ramag
1946

13.

Tadarida mexicana

- July 9 ½ mi. E Pope Valley P.O., Napa Co., Calif.
although most of the adult bats were already out flying. I located some young Antrozous in the wall but found no young Tadarida, although I could hear bats crawling and squeaking in the roof.
- July 14 Along with 100 Antrozous we collected ¹⁹~~15~~ Tadarida, ¹⁸~~14~~ of which we banded and released. All but two were adult ♂♂, and these two were adult ♀♀ ^{not lactating} (~~apparently non-breeding~~). We could see many more Tadarida in the roof as they scurried past openings, but they kept out of reach better than did the Antrozous.
- July 16 Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.
Under the bridge in spaces similar to those in which we found them on July 23, 1945 (perhaps the same cracks) we again found young Tadarida. In one place were 47 ♀♀ and 54 ♂♂ which we banded, besides about 5 killed in getting them out and a dozen or more left in the crack and 1 young ♂ Myotis yumanensis. In another space were 108 ♂♂ & 72 ♀♀ banded and about as many as before killed and left in the crack. In another space right next to this last one was one adult ♀

M.C. Ramag
1946

14.

Tadarida mexicana

July 16

Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.
(the only one seen), one young ♂, and two young Eptesicus. All these bats were banded and returned to the spaces from which they had been taken. Every so often a young bat would fall to the ground, but we could not tell whether or not this was due to our disturbance. These would attempt to climb to the highest point on whatever they landed on, or into cracks if there were any. No Tadarida were seen flying until it was quite dark, although Myotis ~~and~~ Eptesicus had been flying for half an hour. From then until 9:15 p.m. when we left there were Tadarida continually darting back & forth under the bridge although we could not determine where they had come from. They seemed to show a definite interest in the cracks containing the young ones and a few even entered briefly but we saw none enter and stay. Both the adults flying and the young in the cracks were chirping, and even the young which had fallen to the ground and crawled into crevices in rocks.

Aug. 10

We looked at the cracks under the bridge before dark but did not disturb the bats.

W.C. Ramage
1946

Tadarida mexicana

15.

Aug. 10

Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.

There were *Tadarida* in the same places where we found them July 16 and also in several more cracks. There were also some with the *Myotis* in the space which contained only the latter on July 16. No *Tadarida* were seen flying until after dark and there did not seem to be as many as before. Activity continued all through the

Aug. 11

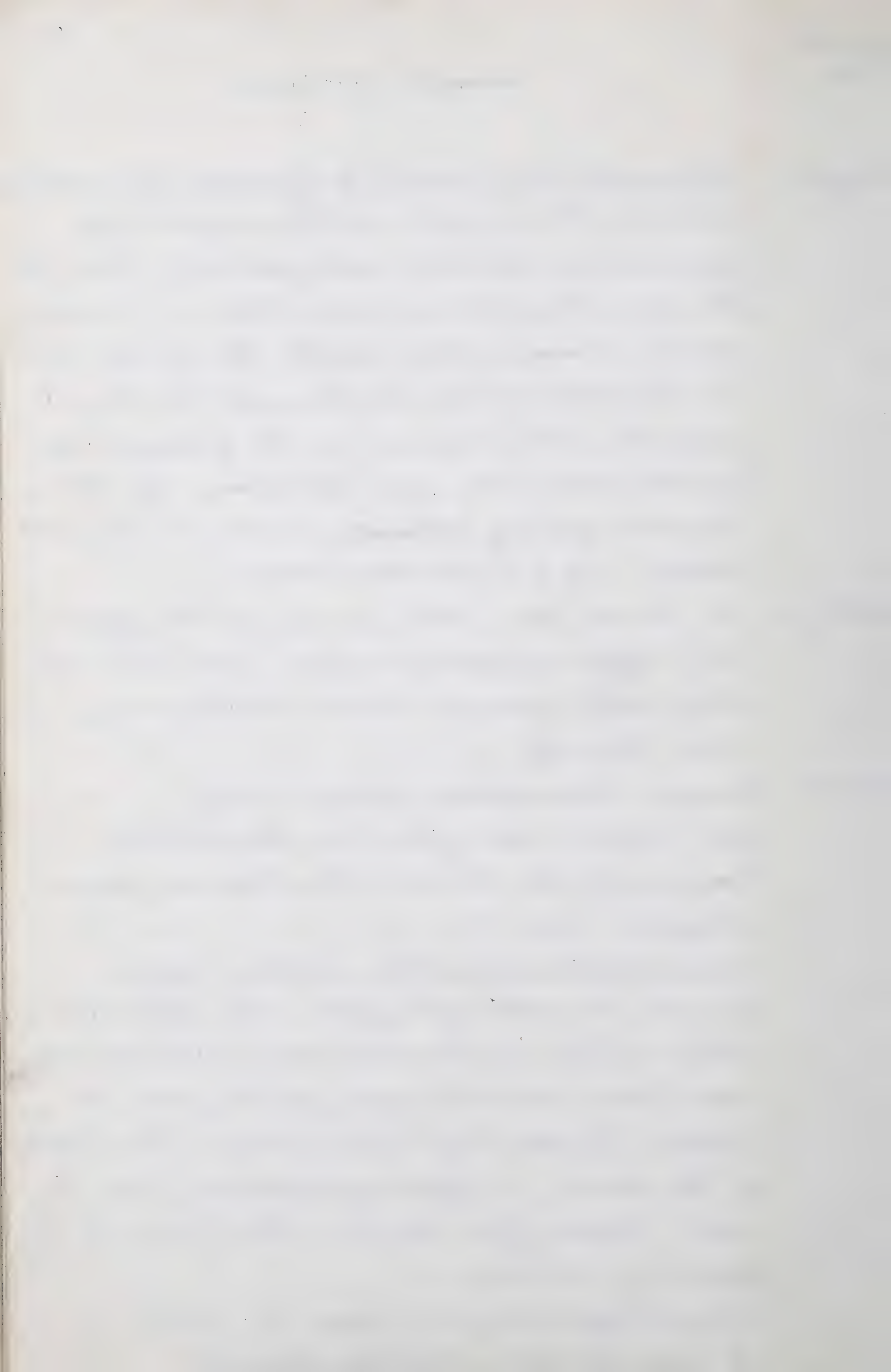
night and for about ~~20~~³⁰ minutes after daylight (20 minutes after the first bird, a canyon wren, started to sing). Bats were continually flying in and out of the cracks but it was impossible to tell whether they were young or adults since many of the young were able to fly. There seemed to be more bats in the crack but this may have been because more had moved out into view. None were seen hanging from the bridge outside of the cracks. ^(c.f. *Myotis yumanensis*) When it became light enough to see, the bats could be seen flying about the bridge all the way across the river and may have been going into cracks out there. In the morning we caught all we could of the bats in the cracks and banded them. They were all young - 26♀♀, 28♂♂ - and only one had been previously banded, although

M.C. Ramage
1946

16

Tadarida mexicana

- Aug. 11 Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co., Calif.
several others had swollen right legs from which bands had probably been lost. The one banded one was taken in the same crack where it was caught the first time — the crack which contained the largest number both times. On the ground we found mummies and skeletons of 77 banded young *Tadarida* (26 ♀♀, 51 ♂♂) and about 6 or 8 unbanded ones.
- Sept. 22 We found no bats in any of the spaces they had occupied before, and did not stay late enough to see whether any were flying.
- Oct. 20 Zucerne, Clear Lake, Lake Co., Calif.
One torpid ♂ was found in the oil cloth hangings of the dance hall where we found *Myotis* Sept. 29.
3 1/2 mi. SE Clear Lake Oaks, Lake Co., Calif.
We got 1 ♂ under wall paper in an abandoned house which we banded and released near some trees across an open field from the house. It rose high and flew in the direction of the house. A *Myotis yumanensis* from the same house flew about in the trees at the point of release.
1/2 mi. E Pope Valley P.O., Napa Co., Calif.
A number seen, but none caught.



M.C. Ramage
1946

17.

Tadarida mexicana

Nov. 16 Yountville, Napa Co., Calif.

At the old Yount (Hoskiss) Ranch House where we found 1 Tadarida April 7, we collected 3 ♀♀ in a crack in the attic ceiling. On Nov. 19 I put up 2 of these which had been injured in capture. One had died - I don't know when - and was very fat. The other was still alive and not fat at all. I had not noticed their condition at time of capture. I banded the third at Berkeley but it seemed unable to fly any distance. We fed it meal worms and fly larvae and Lois kept it. In the winery near the ranch house there had been large numbers of bats in summer, but we found only a few Tadarida in cracks between beams of the ceiling.

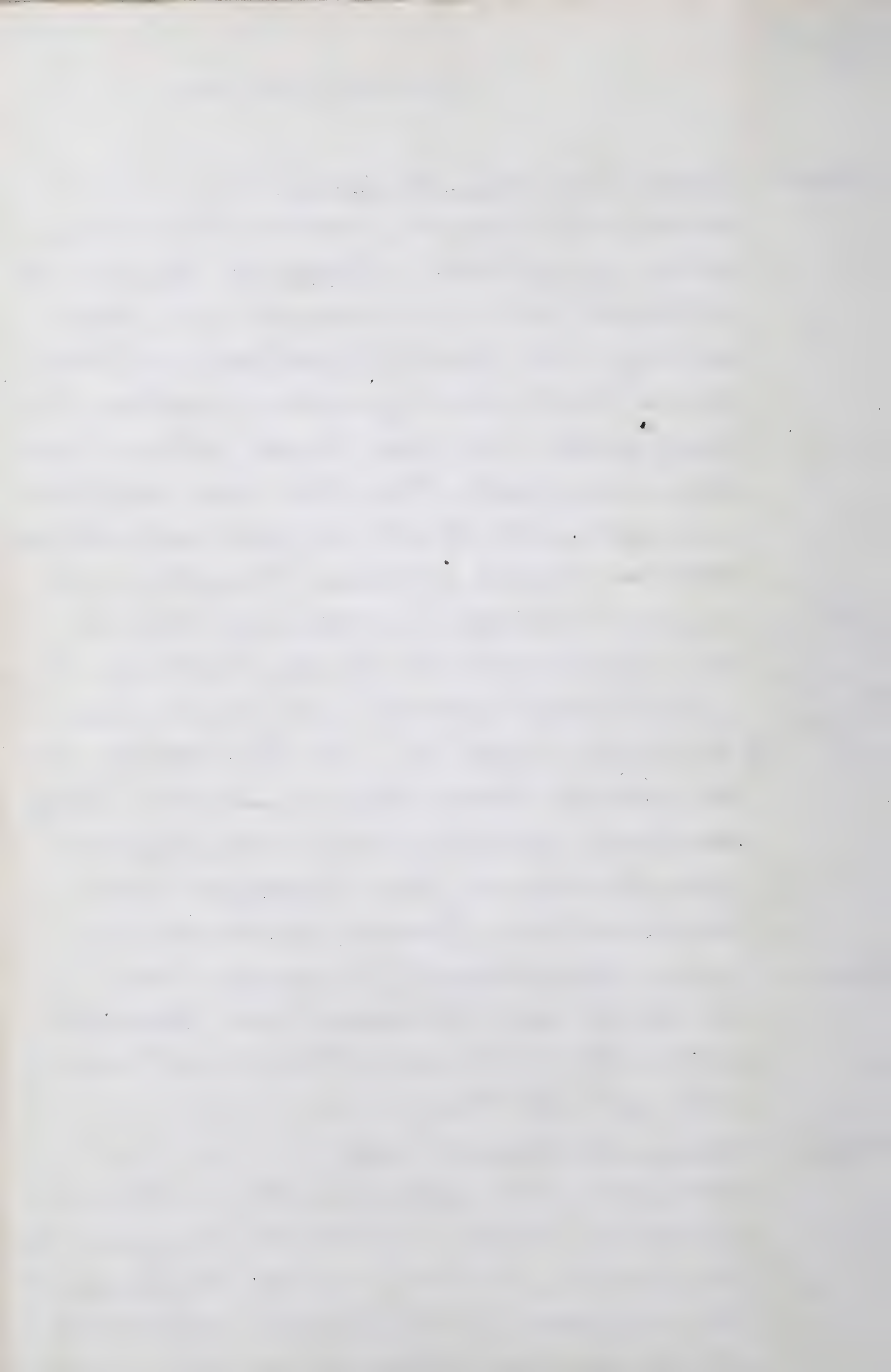
released
Dec. 5,
apparently
quite able
to fly.

Nov. 17 1/2 mi. E Pope Valley P.O., Napa Co., Calif.

We could see Antrozous and Tadarida in the roof of the schoolhouse but could not get at them.

Nov. 30 Kelseyville, Lake Co., Calif.

On top of a flat-roofed, two-story restaurant building, between metal sheeting and the brick wall, we took 22 (15 ♂♂, 7 ♀♀) from just the small area we could reach without tearing off the sheeting. We could see and hear many



C. Ramage
1946-7

18.

Tadarida mexicana

Nov. 30

Kelseyville, Lake Co., Calif.

more for a distance of several yards along the wall. We drove out of town to the north where we banded and released the bats, except for one saved as a specimen. They flew high and usually disappeared in the direction of town after circling about several times. When released on flat ground in dry grass they had trouble taking off, making numerous starts, falling to the ground, crawling some distance, and then trying again. They usually succeeded by getting onto a slight rise and taking off downhill.

Dec. 1

Bear Creek, 6 1/2 mi. SE Wilbur Springs, Colusa Co., Calif.

(Bridge 1536 on Hwy. 16) From a space between bridge timbers under the north end about an inch or two wide, a foot high, and a foot and a half deep, open at the two ends (one of numerous such spaces characteristic of bridges of similar construction) we took 8 (5♂, 3♀) which we banded and returned to another crack at the south end since they were still too cold and torpid to fly.

Feb. 5

4 mi. N Needles, San Bernardino Co., Calif.

On the west wall of a shed near the River between the screen wall and some lathes under a sheet of corrugated iron we got 1♂. Also M. californicus.



M. Koford
1947

Tadarida mexicana

19.

Feb. 7

1½ mi. above Topock R.R. bridge, Colorado R., San Bernardino Co.

About ½ mi. from the river, on the face of a shale cliff, about 6' above the top of the slope at the cliff base we located some Tadarida in a vertical crack. At 4:00 p.m. we could hear an occasional squeak but when I returned at 5:00 they were very noisy. The activity increased and at 5:15 the first bats left the crack. At first they left in groups of perhaps 10 to 20 from this crack and two others close by. A few minutes would elapse and then another flight occur, simultaneously from all three cracks. These flights increased in size until the bats just seemed to pour off the cliff in a steady stream. At the very least, several hundred bats left the cliff. By 5:30, although it was just beginning to get dark, almost all the bats had left, judging from the sounds in the crack. They all flew high and headed immediately in the direction of the river. At one time while they were leaving I held a net over the crack and caught 10, but having no place to put them, I didn't catch any more. Between 5:30 and dark (about 6:00), an occasional Tadarida left the crack and flew toward the river, flying very fast, and I

M. Koford
1947

Tadarida mexicana

Feb. 7

1½ mi. above Topock R.R. bridge, Colorado R., San Bernardino Co.
saw one return to the crack. During this time there were some smaller bats flying about the cliff, presumably mostly Pipistrellus.
At about 7:00, I heard a Tadarida flying down near the river. Out of 11 collected, 3 were ♀♀. We banded and released them, saving 1 ♂ as a specimen.

Feb. 17

Shandon, San Luis Obispo Co., Calif.

In the attic of the high school were a number of Tadarida at each end between the end walls and the wooden ceiling beams. Carl pulled out four of them and could have gotten more. Two which we saved were one ♂ and one ♀. Along the attic floor were droppings, none of them looking very fresh, mostly under the ridgepole. There was no crack above them so they may not have been made by Tadarida.

The school principal said that in summer bats just poured out of a place under the eaves.

Feb. 24
+
Mar. 5
(over)

March 24

Berkeley, Alameda Co., Calif.

A woman living at 24 Roble Ct. phoned the museum to say that there were bats behind the shutters of her house. She had been noticing droppings for about a month and had just discovered that the bats were behind the shutters. Krutzsch and I went out to investigate at 10:00 a.m.

Feb. 24 Berkeley

Banded & released at L53 11:00 am 1 ♀ coll. by
Benson at Oxford Apartments Feb. 23.

Mar. 5 - Berkeley

(913 19th St.)

I banded a ♀ collected in Sacramento Feb. 27
by Longanecker and released it in the
evening at L53. It was found on a cool
day after a 3-day warm spell between
a screen and window.

M. Koford
1947

Tadarida mexicana

21.

March 24 Berkeley, Alameda Co., Calif.

From behind 4 pairs of shutters on the south side of the house we took 7 live bats (5 ♀♀, 2 ♂♂) and a mummy. There were none on any other side of the house. We left the shutters open, as the woman wanted to get rid of the bats. Although the sun was shining on the shutters, the bats were torpid enough to fall to the ground without flying, only spreading their wings enough to break their fall. One of the ♂'s had an extra digit on each hand about 1" long, free from the membrane but with a slight web, projecting from the wrist. These "fingers" had 3 joints but were apparently not subject to any sort of voluntary control. ~~The bat was normal in all other respects.~~ The other 6 bats I banded and released at L.S.B.

March 25 at 8:00 p.m. The 6-fingered bat

March 28

also has 6 toes, all about the same size and all functional, with a fringe on the outside toe of each foot as in a normal foot. We took photographs and x-rays of it today. It has been in the bone room (40° F.) since it was caught except for short periods. Today I took it out at 9:00 a.m. From then until

M. T. Ford
1947

22.

Tadarida mexicana

March 28 Berkeley, Alameda Co., Calif.

2:00 p.m. it remained in a very torpid condition although it was kept at room temperature and exposed to bright lights and a great deal of handling, including being taped down in various positions for x-raying. It would just lie quietly in whatever position it was placed.

At about 2:00 I decided to try feeding it. I placed 3 termites (Zootermopsis) in its mouth and closed its jaws tightly on them to crush them. After about 15 min. it began to tremble, as is characteristic of bats coming out of the torpid state, and chewed the termites. Once started, it ate greedily and consumed about 100 of the large termites in fairly rapid succession. I tried to slip in an occasional fly larva or pupa which it usually refused. It did eat 3 or 4 pupae which I had crushed before offering them. The bat snapped at the termites and even crawled after them when I held them in front of its nose just out of reach. It also picked up several which dropped on the table, although missing others which dropped.



M. Koford
1947

23.

Tadarida mexicana

1 mi. NE Sulphur Bank Min., 10 mi. SE Lucern, Lake Co.

March 29

In the old house which we have been visiting regularly since last September, we got 1 ♂ under wallpaper, which we banded and replaced.

Berkeley

April 7

Mrs. Fletcher phoned to say that there were bats behind her shutters again. I went out there and got 3 — one behind a shutter, and 2 which they had put into a box the night before. One was banded — the ♂ in the group I banded March 25. The others (1 ♂, 1 ♀) I kept for feeding experiments. They would eat nothing tonight. The 6-fingered bat ate a number of fly pupae tonight in addition to its usual termites.

April 8

The ♂ ate some termites tonight, but the ♀ still refused to eat even when fed by force.

April 9

"Tex" was active when we arrived at 7:00 a.m. and ate a large meal. (The other two, in a separate cage, were quite torpid.) It remained active all day and was fed off and on — a few termites at a time. When anyone approached the cage, he came to the front to be fed. At 9:00 p.m. I stimulated the other two to become active by putting termites into their mouths. Both ate

M. Koford
1947

24.

Tadarida mexicana

April 9

Berkeley

but were not nearly so aggressive as "Hex". Instead of coming out after the food as he does, they stayed in the corner of the cage. The ♂ moved a short distance toward a termite on the end of forceps but the ♀ cowered back flattening herself as far as possible into the corner. However, when a termite was held to her mouth she seized it vigorously and ate ravenously. She also took fly pupae readily, although the ♂ refused them. "Hex" takes both pupae and termites greedily.

April 10

I fed all three again this morning and they still exhibited the same relative order of timidity. "Hex" is so tame that he will run across the table to take a termite from the forceps. The other two are still wilder than he was, even at first, although the ♂ showed some aggressiveness this time. All three ate termites greedily. "Hex" and the ♀ ate fly pupae but definitely preferred termites, and the other ♂ again refused pupae. I put all three into the same cage. At 10:00 pm I fed them again. All 3 ate termites

M. Koford
1947

Tadarida mexicana

25.

April 10

Berkeley

voraciously. The ♂ was almost as tame as "Hex", but the ♀ still crouched against the floor of the cage while being fed. Both ♂'s, when they heard another bat chewing, would run toward its head, as if to take the food. After feeding I banded and released the ♂ & ♀ collected April 7.

April 11

We received today via a policeman two bats which flew into the home of Grace M. Ritter of 615 San Fernando last night (phone Lo 5 - 9099). I banded them (♂, 18) and ^{Lois} ~~released them at L.S.B.~~ ~~night of April 12.~~ kept them.

April 14

"Hex" ate a small piece of raw horse-meat more voraciously than he eats termites, but I gave him only the one small piece.

April 15

Tonight I fed the two bats received April 11. Although it took a great deal of coaxing to get started, they both ate well. Both showed about the same degree of aggressiveness, advancing about 1" toward a termite and not shrinking into a corner as did the only other ♀ I have fed (April 9-10). The ♂ had quite a temper. Whenever I moved my hand toward it, it would open its mouth wide

M. Koford
1947

26.

Tadarida mexicana

April 15

Berkeley

and spit, at the same time batting my hand with the right wing (the banded one). After fleeing, I released them.

April 19

3 mi. SE Calistoga, Napa Co., Calif. (Saviez Ranch)

Behind the barn door where we got 3 Antrozous on our arrival we found an Antrozous and one or Tadarida about 15 minutes later. Meanwhile we had been catching Antrozous inside and had chased several unidentified bats out of a sack hanging in the attic. We could not be sure though where the Tadarida had come from.

April 20

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

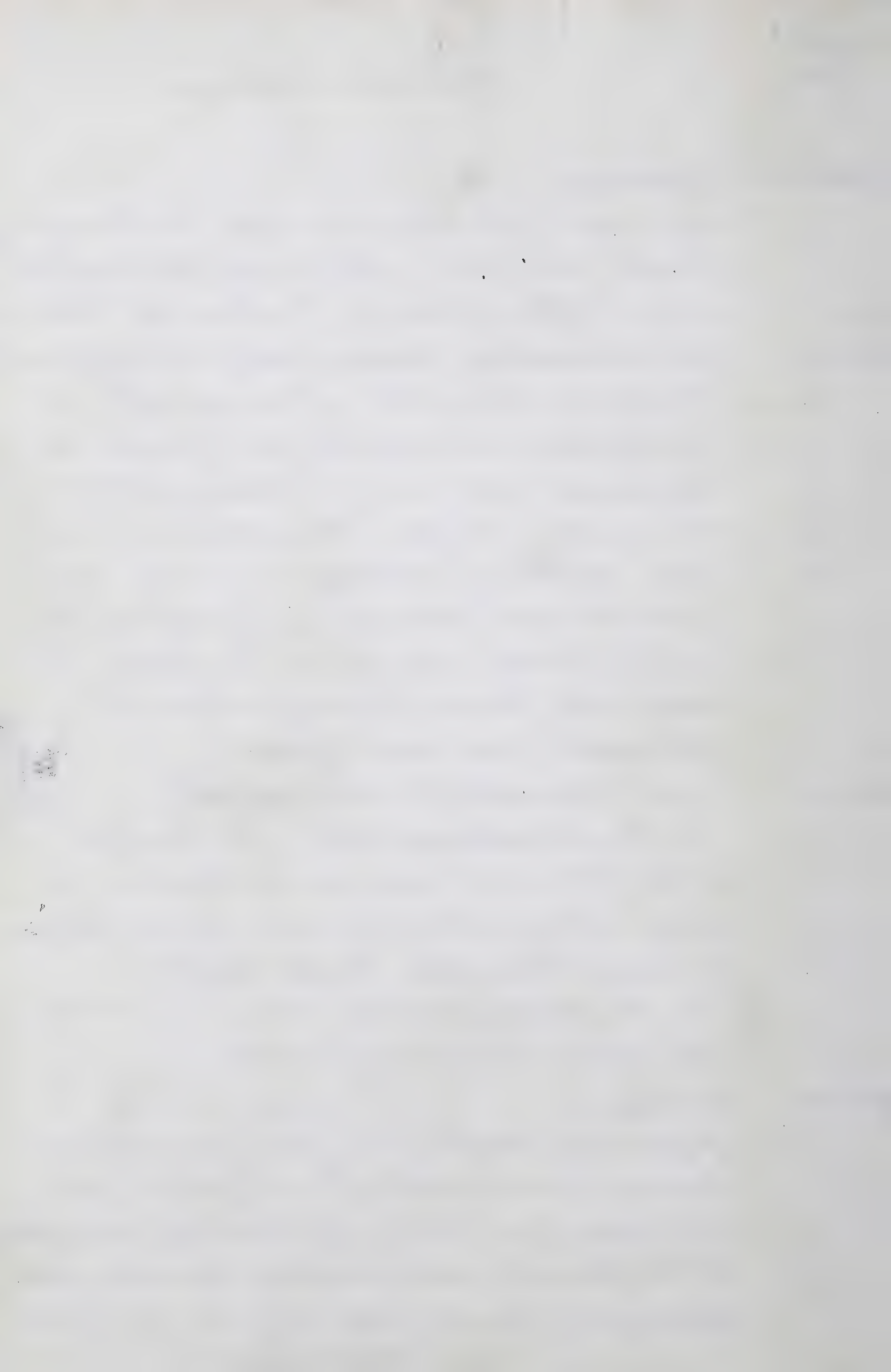
In the schoolhouse attic we banded 3 (1♂, 2♀♀) and saw some others in the roof along with the more obvious Antrozous.
Lucerne, Clear Lake, Lake Co., Calif.

In the dance pavillion was 1♀ in the draperies which we banded.

April 26

Berkeley

A policeman brought in a ♀, very fat, which I banded and released. It was found inside the house by Dr. Fernan^{sp.?} of entomology & parasitology at 197 Amherst, north Berkeley where he has apparently found bats before on the floor.



M. Koford
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27.

Tadarida mexicana

May 4

2 1/4 mi. SSE Wilbur Springs, 1800', Olusa Co., Calif.
1 ♂ under wallpaper in abandoned house
- fairly active.

June 18

1/2 mi. W, 2 mi. S Simmler, San Luis Obispo Co., Calif.
In a rock formation here we located a large Antrozous colony (♀♀ & young). Near the base of one rock was a cave about 10' high, 15' across, & 6' deep. The bats were in a vertical crack extending upward from the back of the cave. Just before dark, as they were flying out, we caught 7 Antrozous (adults^{♀♀}) and 4 Tadarida (adult ♂♂) in the net. We banded and released all but one of each kind. We stayed until about an hour after dark and saw many Antrozous flying but none which we could positively identify as Tadarida. The nearest water seems to be a reservoir about a mile away.

Aug. 20

Tuolumne R., 900', 2 1/2 mi. ESE Jacksonville, Tuolumne Co.

Under the same bridge where we banded bats last summer we banded 76 ♀♀ and 67 ♂♂, mostly immatures. At least 5 of the ♀♀ were adults which had lactated this year. These bats were mostly in one crack although there were some in a number of cracks, including one adult in with a group of Myotis yumanensis.

M. Koford
1947

Tadarida mexicana

Aug. 20

Tuolumne R., 900', 2½ mi. ESE Jacksonville, Tuolumne Co., Calif.
There were perhaps an equal number which we didn't get. Some of these flew but most of them we didn't get out of the cracks. All those we got were able to fly and were therefore released on the ground. They went back into cracks in the bridge (at least those which we watched) but mostly not the same cracks they were taken from. One immature ♂ had a white spot on the belly and one immature ♂ had a patch of short white hair on top of the head. This year the bands were placed on the wings rather than the legs.

Aug. 21

Berkeley One immature ♂, apparently brought back by mistake from the Tuolumne R. was banded and released tonight at L.S.B.

Aug. 24

2 mi. SW Vacaville, Solano Co., Calif.

At the old "Dixon house", on the Pleasants Valley Rd. about ¼ mi. beyond where it leaves the old highway we banded

76 Antrozous ^(60 + 16) and 6 Tadarida (all ♀♀).

This was all we caught of an undeterminable number (mostly Antrozous) in the roof at the north end of the house under the shingles along the ridgepole and in the boxed in eaves.

Aug. 25

Berkeley Saw one in tile in east pergola at Hearst Mining Bldg. when looking for Myotis. No bats in east coart.

M. T. Koford
1947

Tadarida mexicana

Aug. 26

Arroyo del Valle Sanitarium, 4 mi. S Livermore, Alameda Co., Calif.

In a crack next to the chimney where the stucco wall was quite warm we could hear bats. From the droppings and odor I am fairly certain there were *Tadarida* present although the only bat we chased out was an *Antrozous*.

Sept. 13

Paso Robles Cr., 1100', 1/2 mi. S & 6 mi. W Templeton, San Luis Obispo Co.

at the York Mountain Winery we found 20 or 30 (at least) *Tadarida* in the space between a wooden sign over the door and the stucco wall. They told us that these bats were common there.

Nov. 11

Berkeley, Alameda Co., Calif.

Mrs. Howard Fletcher phoned to say that the bats were back behind her shutters after an absence of several months.

I went there with Dr. Pearson in the late afternoon. The bats were behind 2 shutters - the left one (facing out) of the window at the head of the stairs in the hallway, and the right one of the nearest bedroom window. They were active enough to fly when disturbed. At the first shutter we got 5 ♂♂, 4 ♀♀, and 1 escaped. At the second we got 2 ♀♀, and 4 escaped. Mrs. Fletcher left open these 2 shutters to discourage the bats from returning. I banded 8 of the bats and released 7 of them after dark.

Tadarida mexicana

Nov. 11 Berkeley, Alameda Co., Calif.

One escaped into the room in the museum and disappeared. Dr. Pearson kept 3.

Nov. 14 I banded and released the other 3.

Nov. 17 Carl and I went to the Hearst Mining Bldg. today. We looked only in the east court. Under the drain along the west side of the court were probably at least several hundred *Tadarida*. Carl pulled out one - a ♂. It was torpid and did not fly when dropped to the floor.

Dec. 30 I went to the Mines Bldg. again today with my brother. We could find nothing in the east court, but in the west court were apparently as many as were in the east Nov. 17. Steel pulled out one - a ♂ - quite torpid. This was about noon. The bats were under the drain along the east wall of the court.

Jan. 28 I went with Carl to the Mines Bldg. Found no bats in the pergolas. In the east court there were a few bats on the west wall. We got 3 (2 ♂♂, 1 ♀), all torpid. We heard none in the west court but there were fresh droppings along the east wall.

Jan. 29 We could hear none in the east court. In the west court I heard a few squeaks along the east wall and also over

m. Koford
1948

31.

Tadarida mexicana

- Jan. 29 Berkeley, Alameda Co., Calif.
the pit at the north end. We got 6 ♀♀
all torpid. One of these we banded ⁽⁴⁷⁻²⁴⁹⁾ and
released at our lot (750' beyond end
of pavement on Purdue Ave., 1 mi. N Berkeley,
Contra Costa Co.). It flew straight and
high, SW for a short distance, then SE.
3 others I put into our refrigerator (at
0°C.) in the afternoon.
- Jan. 30 The 3 bats in the refrigerator were still
alive this morning and 2 were left there
- Feb. 1 Both were alive at noon and were ^{from refrig.} removed _{at our lot}
- Feb. 2 This evening I released another of the
♀'s collected Jan. 29 (# 47-251). It
had some difficulty getting started,
flew S, then E, and finally N.
- Feb. 3 This evening I released another - 47-252
at the lot. It also had some trouble
and disappeared to the SW.
- Feb. 24 Mrs. Fletcher phoned to say that she had
bats again. Dr. Pearson will investigate.
- Feb. 28 1½ mi. E Pescadero, San Mateo Co., Calif.
We found a group of perhaps a dozen *Tadarida*
in a crack between two rafters about 18'
above the ground in a large barn. We
collected one which was separated a little
from the rest of the group. It was a male,
cold and torpid.

M. Koford
1948

Tadarida mexicana

Mar. 5 + 23

1/2 mi. E Pope Valley P.O., Napa Co., Calif.

See journal.

April 11

Merced R., 5 mi. E Newman (Stanislaus Co.), in Merced Co.

We camped under the bridge where the highway crosses the river, on the south side. We smelled *Tadarida* and I heard them all night. When I flashed a light up I could see them flying and a large number were roosting in one crack. In the morning I could see none where I had seen them at night and no droppings underneath. In another crack farther out toward the river I heard many *Tadarida* and there was a large pile of droppings underneath. By going up onto the bridge, Carl was able to reach them and pulled out 12. 11 were ♂♂, which we banded and released. One was a ♀, which I kept and gave the reproductive tract to Pearson.

San Joaquin R., 4 mi. E Newman (Stanislaus Co.), ⁱⁿ Merced Co.

Under the bridge where the highway crosses Carl found a mummy and one live ♀ in one crack on the east side. He tore the skin getting it out but I saved the reproductive tract and skull for Pearson. He found 1 ♂ on the west side, which I gave to Hildebrand.



M. Koford
1948

Tadarida mexicana

April 14 Berkeley, Alameda Co., Calif.

Mrs. Paul Marhenke, 1128 Miller Ave, Berkeley 8, brought in 1 ♂ & 1 ♀ which she found April 12 in her bedroom. I banded & released them at Z. S. B.

April 22 Silver Cr., 900', 2½ mi. ESE Panoche, San Benito Co., Calif.

We saw several flying at twilight and I continued to hear them after dark. I saw one emerge from a crack in the rock. Carl shot 1 ♂.

April 24 Painted Rock, ~~Carizzo~~³⁰ Plains, San Luis Obispo Co., Calif.

At another rock formation south of Painted Rock several miles we located some *Tadarida* in a crack. At twilight Carl and Eben McMillan shot at Painted Rock. They got 3 *Tadarida*, 2 ♀♀ and 1 ♂. I saved the bodies of the ♀♀ for Dr. Pearson.

April 25 1½ mi. E & 3 mi. N Annette, 1200', Kern Co., Calif.

Many *Tadarida* and some *Pipistrellus* flew over us, headed down the canyon. The two *Tadarida* which Carl shot were ♂♂. We were in open grassland but there are rock formations nearby.

May 7 Bixby Cr., 250', ⅓ mi. E, 4¼ mi. N Point Sur Lighthouse, Monterey Co., Calif.

Carl shot a ♀ at dusk. We saw a few more bats which we thought were also *Tadarida*. The bat was not pregnant & I gave the reproductive tract to Dr. Pearson.

M. Koford
1948

Tadarida mexicana

June 10 Berkeley, Alameda Co., Calif.

Mr. Daniel B. Gilmore, 1328 Spruce St., telephoned that he caught a bat in his home last night. We left it in a can on the porch and I picked

June 14 it up. I banded it on June 14 but failed to note its sex. It was released at LSB, on June 15 I believe.

Oct. 1 1 mi. NE Sulphur Bank Mine, 10 mi. SE Lucerne, Lake Co.

In the wall of the barn at the abandoned house here, was a group of *Tadarida* in a vertical crack, accessible from both the outside and inside. 2 *Eptesicus* were also present. We caught 7, all ♀♀, 3 of which I banded and released. As many or more escaped, some to the inside, some to the outside. It was morning but the bats were active, scurrying up and down in the crack when disturbed.

Oct. 20 1.3 mi. SE Inverness, Marin Co., Calif.

In the garage at Mr. Golden's barn we caught ^{4♀♀, 3♂♂} 7 *Tadarida* in a vertical space between a molding and the wall extending along the end of the room (crack entered from below thru horizontal opening). We banded them and released most of them inside, one I believe outside.

M. Koford
1948-9

Tadarida mexicana

Oct. 20 1.3 mi. SE Inverness, Marin Co., Calif.

They were very torpid (about 5:00 pm).
At 8:30 pm two were still hanging ^{on a rafter} where
we released them, also at 10:00 pm,
and at least one was still there at 12:00.
In the morning we could see 2 in the
crack, at least one of them banded.

April 11 4 mi. E Blythe on Colorado River, Riverside Co., Calif.

There were many *Tadarida* in cracks in the
wooden part of the bridge over the west bank of
the River with *Myotis yumanensis* and a few
Eptesicus. The few caught and examined were
♀♀ - not visibly pregnant.

April 13 Imperial Co. Along the highway west of Yuma
there were *Tadarida* under most of the low
wooden bridges across the washes.

April 14 1 mi. NE Sulphur Bank Mine, Lake Co.

Pearson got a banded *Tadarida* in the house. The
number was mostly illegible but judging by the
last two digits it was ^{2♂} one banded March 29, 1947
under wallpaper in the house (# 46-16819).
This is the only *Tadarida* we have ever taken in
the house, although we banded 3 ♀♀ at the
barn last fall. I put a new band on the
bat and released it at our house in Berkeley
April 19.

M. Koford
1949

36.

Tadarida mexicana

(~~Manhattan Mine~~)

Aug. 19 3½ mi. by road into Napa Co. on Towata-Knoxville road
While looking for Corynorhinus in a mine we found (heard) Tadarida in rock crevices in at least two places (outside the mine tunnels).

Aug. 18 4 mi. SE Modesto.
A banded bat (47-127) was found near the Tuolumne River by Russell G. Rowe. It was banded Aug. 20, 1947 as an immature at the bridge 2½ mi. ESE of Jacksonville, Tuolumne Co. (about 40 mi. airline distance)

Sept. 28 Elk, Mendocino Co., Calif.
The pupils at the school at Elk found five bats in the attic. Two were banded Corynorhinus from Albion and the other 3 were undoubtedly Tadarida. "The two banded bats were different from the other three. Their ears were long & pointed and the three bats had round ears. The three bats had long tails like mice, and the banded bats had webbed tails like the wings."

Oct. 26 Berkeley, Alameda Co.
Pearson gave me some Tadarida found about a week ago behind the shutters of a house near the Claremont Hotel. I banded them and released them at 123 Purdue. There were 47 ♀♀ & 6 ♂♂.

M. Koford
1950

37.

Tadarida mexicana

March 30 San Lorenzo, Alameda Co., Calif.

Dr. Benson received a report of a banded bat (123204) found alive in San Lorenzo. It is a ♀ banded Oct. 26 in Berkeley.

April 15 1 1/4 mi. E jct. north & middle fr. American R., 700', Eldorado Co.

On the second floor of a 4-story frame structure were mixed Tadarida and Myotis yumanensis in cracks in the ceiling. We weren't able to extract any Tadarida.

April 17 After dark, Tadarida and Eptesicus were night-roosting in cracks in the ceiling of the ground floor. We shot about 4 Tadarida, all ♀♀.

April 18 In the morning we got 2 ♀♀ out of the crack on the second story, which I banded and released.

M.C. Ramage
1945-8

Eumops perotis

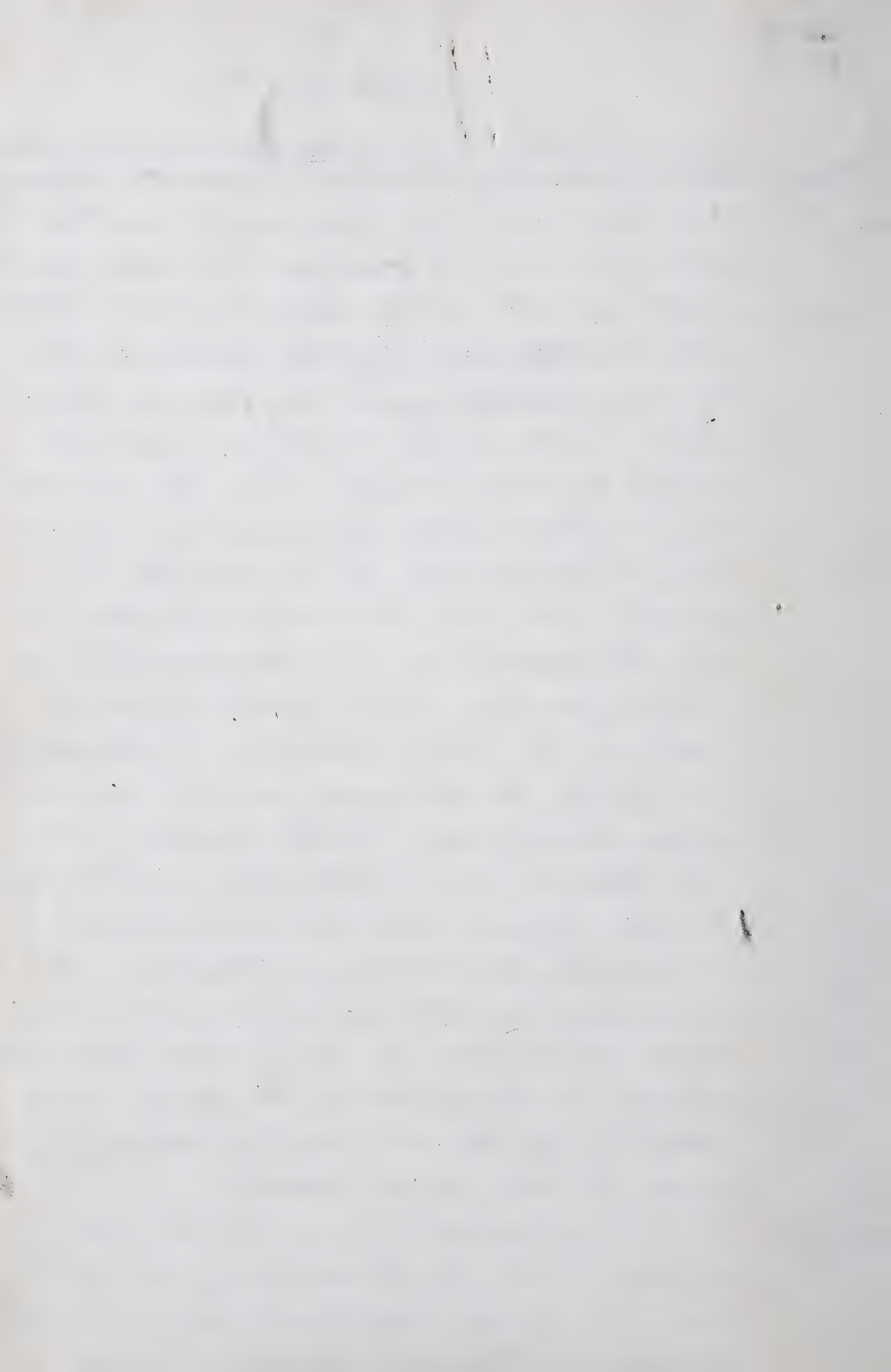
May 2
1945

Silver Creek, 900 ft., 7½ mi. ESE Panoche, San Benito Co., Calif.
~~4 mi. SW Mendota, Silver Creek, Fresno Co., California~~

One bat and the mummy of another were found in a seam in the rock about 18 ft. up on the cliff above the creek. Walt located the bat by the accumulation of large droppings on the ground below and we were able to look up into the crack and see it by using the reflector on the flashlight to reflect sunlight up into the crack. He shot into the crack and hit the bat as evidenced by its squeaking. It then crawled up into a position ⁱⁿ ~~from~~ which we could not see it, but, finally, by standing on top of the car and probing with a long heavy wire, Walt chased it down so that one wing protruded from the crack. He then stepped back and shot again whereupon the bat again withdrew. He repeated the process and this time the bat came down to hang head downward almost entirely out of the crack. Walt doubled up the wire and swatted it, and it fell to the ground.

April 22,
1948

In the same crack where we got the bat in May, 1945, and where Benson & Dalquest got 15 more in June, 1945, Carl and I saw a *Eumops* (at least from the size we were fairly certain of



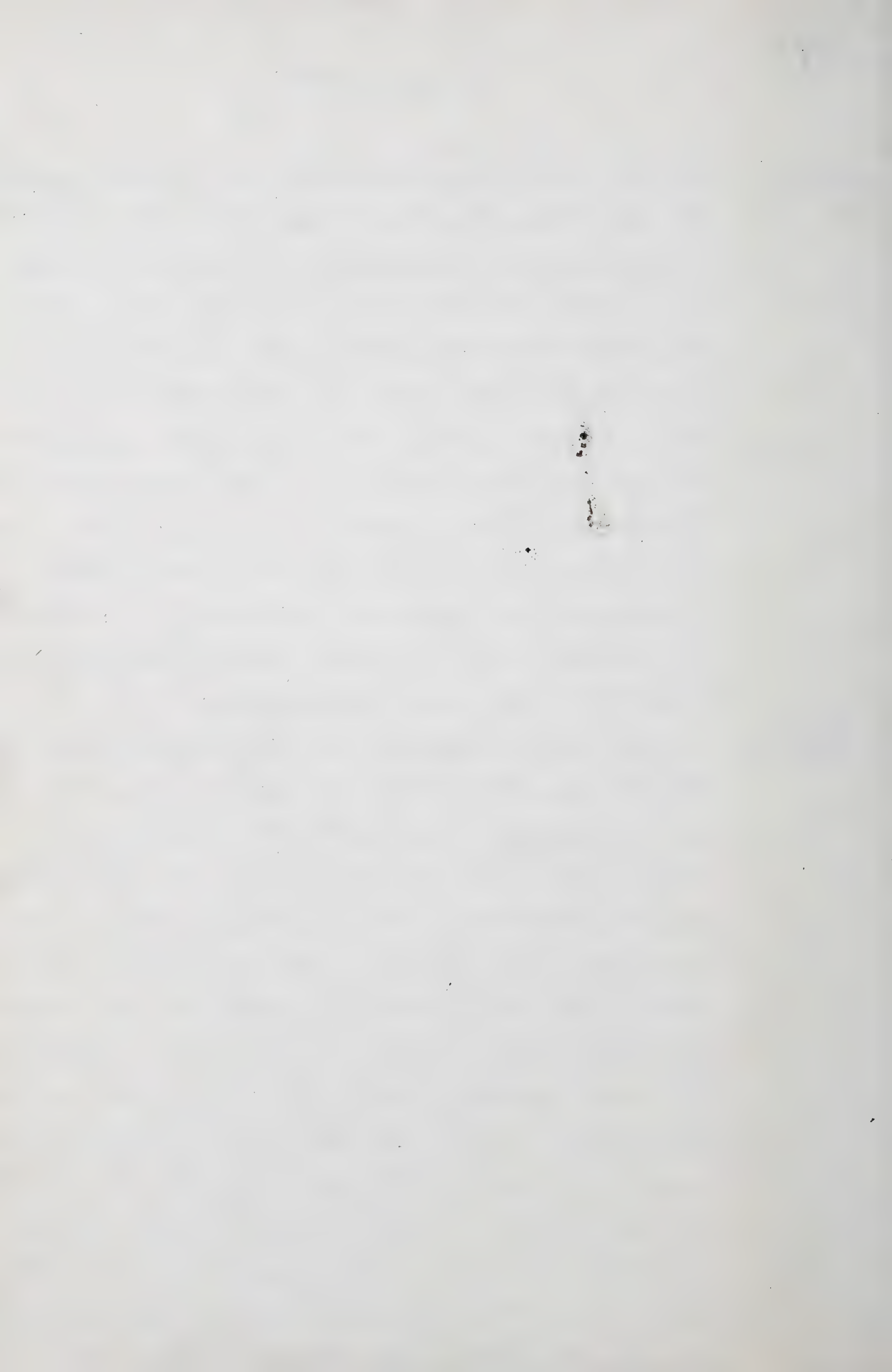
M. Koford
1948

Eumops perotis

2.

April 22 Silver Cr., 900', 7½ mi. ESE Panoche, San Benito Co., Calif.
(the identification.) In September, 1945, we found
Austroaus and Tadarida in this same crack.
~~Nothing in Feb., 1947 - at least by day.~~
Carl shot at the bat with a B-B gun but
it crawled out of sight. We stayed about an
hour after dark but it did not come out.
I could see a bat moving in the crack but
could not identify it. There were several
Tadarida flying, and one came from a crack
very close to this one. We saw one bat
flying which gave continually a Tadarida-
like chirp and which we both thought was
much too big for a Tadarida.

Aug.
~~Sept.~~ 24 1 mi. SW Democrat Springs, 1950', Kern Canyon, Kern Co., Calif.
Mr. Kevin, Box 7, Kern Canyon, an employee of
Edison Co., told us about the bats on his
place here. He had shot ^{with a 22} into the crack ^{last year} and
gotten two bats with 22" wingspread. He has
carried away loads of guano and says there
have been some kind of bats in this crack
for the past 20 years. The crack is formed
by overlapping rock on a cliff face so that
the space where the bats stay probably has
vertical walls. The opening to it is
horizontal, about a foot wide at the
mouth and becoming narrower upward.
The bats were spread along about 8 ft.
of its length. The canyon has very



M. Koford
1948

3.

Eumops perotis

Aug.
~~Sept.~~ 24

1 mi. SW Democrat Springs, 1950', Kern Canyon, Kern Co.
high walls here. The crack is on the east bank
and about 100' back from the water.
about 100' above the water. There is a board
walk about 40' below it and a rock ledge
on which a person can stand 10' above this.
The last 30' up to the crack is nearly vertical
giving the bats a sheer drop from the crack.
We arrived here at 3:30 pm (daylight saving
time) and found the bats near the opening
making various bird-like sounds
and quite noisy. One flew out shortly
after we arrived and flew about over the
water. Carl shot twice at the same spot
near the center of the group of bats with
a shot pistol from the ledge 30' below.
13 bats fell, 9 ♀♀ lactating or recently so,
1 adult ♂, and 3 immature ♂♂ (grayer and
with smaller ears than the adults).

We could
see some
injured
ones still
in the crack.

Aug.
~~Sept.~~ 25

We returned the following evening at 7:15
The day before we had thought we could see
about 100 bats with the aid of sunlight
reflected from a mirror. This time we
could not see into the crack very well but
the bats seemed to be deeper in the crack
and making less noise. We found no bats
on the ground. Carl put a net on a 20' pole
and waited on the ledge. By 7:30 there
were a number of small bats flying over
the water below. At 7:45 the *Eumops* still

m. Koford
1948

4.

Eumops perotis

Aug.
~~Sept.~~ 25

1 mi. SW Democrat Springs, 1950', Kern Canyon, Kern Co., Calif.

showed no signs of emerging. Carl put a bamboo pole on the end of ~~this~~ pole so that it projected beyond the net and wiggled it around in the crack. Several bats flew, one fell to the ground, and one dropped into the net. We repeated this and more flew, another dropped to the ground, and 4 more were caught in the net. We caught one of those which fell to the ground, scurrying for cover. Bats continued to fly from the crack, making a chirping Tadarida-like sound. After dark we could still hear them flying overhead and could see them flying near the crack in the light of a flashlight. Of the 5 bats caught in the net, one was dead when we took it out, an immature ♂. Of the 5 remaining live ones (I don't know which was the one that fell to the ground), one was an immature ♂ with a broken wing, one was a ♀ lactating or recently so, 3 were immature ♀♀, older than the ♂. One of these may have been an adult although its mammae were small and it was somewhat grayer than the adult. (mammae smaller than adult but larger than other immature).

M. Koford
1948

5.

Sumops perotis

- Aug. 29 Berkeley I have tried several times to feed the live bats raw meat. The young ♂ ate a little but the others refused.
- Sept. 1 Carl put the bats into the bone room this morning because they were so thin and weak. We got some termites this afternoon and I took the bats out to feed them. The young ♂ was dead. All four live ones ate termites when they were put into their mouths with forceps. They ate wings and all, even the hard heads of the soldiers. They tried to eat pieces of raw meat, but seemed to have great difficulty in chewing it. The adult is more viscous when handled and makes a much greater variety of sounds than the immatures, making some canary-like noises. They all give a piercing scream when handled, the adult and oldest immature more frequently than the others.
- Sept. 2 I killed the youngest ♀ which did not eat as well as the others, and fed the other 3 ^(bats) more termites. We put the adult on top of a group of cases in the gallery to see whether it could take off from a flat surface. It ran around, doing a good deal of slipping on the metal surface, and whenever it came to the edge, fell off.

N. Koford
1948

6.

Eumops perotis

Sept. 2

Berkeley From the floor it did not attempt to fly but only to climb up the cases. When we kept it on top of the cases and kept it stirred up by handling, it scurried about and several times gave a little hop as though perhaps trying to take off. Spreading out a cloth for it to run on seemed only to slow it down. When tossed into the air it flew, dropping a few feet before starting to gain altitude. It flew back and forth several times, then caught hold and hung onto a vertical surface on the ceiling of the gallery. From here it flew to a ledge over ~~the~~ a window and stayed there the rest of the day. At about 8:00 pm Harold Reynolds entered the gallery and saw the bat clinging head-down on a venetian blind about a foot from ^(on the ~~window~~ a next window to that where it spent the day) the top. He threw a tennis ball at it, but it did not move until he scored a direct hit. Then it flew around the room losing altitude and finally he heard it fall (the cases hid it from sight) and found it lying on the floor. It offered little resistance when he picked it up. It may have been hurt by the ball, but probably was not warmed up

M. Koford
1948

7.

Eumops perotis

Sept. 4 Berkeley, Alameda Co., Calif.

enough to fly. Two days later I took the bats (including the escaped one which had been put back) out of the cold room to feed them. The adult ate, along with many termites, a large black ~~carrion~~ beetle. They all took termites readily and I fed them all they would take. They did not seem to like moths, shaking their heads when these were held in front of them, but I fed several moths to one (the older immature) by pulling off the wings and stuffing them into its mouth. I didn't put them back into the cold room, leaving them for Lois to put back after their food had had time to digest.

Sept. 6 I killed the oldest immature? today and fed the remaining immature and the adult termites, dermestid beetles, a house fly, and sow bugs (spit up).

Sept. 7 The bats ate a Carabid beetle, a small cricket, house flies, flesh fly larvae, and a few earwigs (they didn't care much for the last). They ate raw and cooked ground beef, much preferring the raw.

Sept. 12 I have been feeding the bats on raw meat and their droppings are very abnormal,

M. Koford
1948

8.

Eumops perotis

Sept. 12 Berkeley, Alameda Co., Calif.

being dark and stringy and hardening so that they cannot be crushed easily.

Today I gave them termites again and about half an hour (I didn't check this by the clock) after starting to eat they began to produce regular bat-like droppings. They are very tame now,

Sept. making little noise when picked up and not attempting to bite.

Sept. 14 Yesterday was a hot day and I left the bats at the Museum and didn't go down to feed them. When I got there this morning they were both lying in the water on the cage floor and were very weak. I killed them and saved them as skeletons, keeping the reproductive tracts for Dr. Pearson.

